

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

Before The Honorable Vince Chhabria, Judge

EDWARD HARDEMAN,)	
)	
Plaintiff,)	
)	
VS.)	NO. C 16-00525 VC
)	
MONSANTO COMPANY,)	
)	
Defendant.)	
_____)	

San Francisco, California
Monday, March 11, 2019

TRANSCRIPT OF PROCEEDINGS

APPEARANCES:

For Plaintiff:

ANDRUS WAGSTAFF PC
7171 W. Alaska Drive
Lakewood, Colorado 80226
BY: AIMEE H. WAGSTAFF, ATTORNEY AT LAW
DAVID J. WOOL, ATTORNEY AT LAW

MOORE LAW GROUP
1473 South 4th Street
Louisville, Kentucky 40208
BY: JENNIFER MOORE, ATTORNEY AT LAW

(APPEARANCES CONTINUED ON FOLLOWING PAGE)

REPORTED BY: Marla F. Knox, RPR, CRR
Jo Ann Bryce, CSR No. 3321, RMR, CRR, FCRR
Official Reporters

APPEARANCES: (CONTINUED)

For Defendant:

WILKINSON WALSH ESKOVITZ LLP
2001 M Street, NW - 10th Floor
Washington, D.C. 20036

BY: BRIAN L. STEKLOFF, ATTORNEY AT LAW
RAKESH N. KILARU, ATTORNEY AT LAW
TAMARRA MATTHEWS JOHNSON, ATTORNEY AT LAW
JULIE RUBENSTEIN, ATTORNEY AT LAW
CALI COPE-KASTEN, ATTORNEY AT LAW

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8:06 a.m.

P R O C E E D I N G S

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(Proceedings were heard out of presence of the jury:)

THE COURT: Good morning. What do we need to talk about?

MS. WAGSTAFF: Good morning, Your Honor.

MS. MOORE: Your Honor, I just wanted to have a point of clarification before Dr. Levine takes the stand, given some of the issues on Friday with Dr. Mucci. And I wanted to make sure that she understands that she is not here to give general causation opinions; and she is not here to give opinions about the animal studies, mechanistic data, and that any opinion she has on epidemiology is solely based on what Dr. Mucci has already testified to. I want to make sure when I ask my questions, it doesn't elicit other testimony, like what happened on Friday.

THE COURT: Well, yeah, I mean, we had a pretrial ruling about that. We, of course, also had a -- not a pretrial ruling, but pre-testimony ruling about that with Dr. Levine. And, of course, we did with Dr. Mucci too.

You know, I don't know what -- is there anything I can say other than what I said in the ruling that I issued last week?

MS. MOORE: I understand, Your Honor. I didn't know if she was in the courtroom, if it could just be reminded to

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1 her before she took the stand today.

2 **MR. STEKLOFF:** I think she is in the hall, and I'm
3 happy to have her come in. I'm not -- I don't think one way or
4 the other she had any opinions in her report -- she knows not
5 to speak about general causation. I don't think she had
6 opinions about animal studies or the cell studies, and I think
7 that she knows not -- that she is here to rely on Dr. Mucci.
8 I'm going to bring that out affirmatively on my direct with a
9 yes-or-no question. She is going to explain that she reviewed
10 her trial testimony; that she is relying on that, and that --

11 **THE COURT:** Mucci's trial testimony?

12 **MR. STEKLOFF:** Yes, Dr. Mucci's trial testimony. And
13 so, look, if the wrong question is asked -- I'm not re-visiting
14 Dr. Mucci. But if the wrong question is asked, Dr. Levine is
15 going -- will -- you know, if a question asks her about her
16 general causation views, she has general causation views about
17 the epidemiology; but she knows not to speak about that
18 otherwise.

19 **THE COURT:** Okay.

20 **MR. STEKLOFF:** I will reaffirm that with her now.

21 **THE COURT:** Just reaffirm that with her now.

22 **MS. MOORE:** Thank you, Your Honor.

23 **THE COURT:** Anything else?

24 **MS. MOORE:** I think the same applies to Dr. Arber too.

25 **MR. STEKLOFF:** I don't believe -- he knows as well and

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1 he -- even less so did not sort of have opinions about the
2 epidemiology, to the best of my recollection, in his report.
3 So he is very -- he is here to talk about his report.

4 **THE COURT:** Okay. Anything else from either of you?

5 **MS. MOORE:** No. Thank you, Your Honor.

6 **THE COURT:** One quick thing that I wanted to mention.

7 You know, I -- I will tell you that I find this causation
8 issue very difficult. I find it very confusing. It seems like
9 California law -- and the law of many states -- is quite
10 confused about how to instruct juries on medical causation.

11 And, you know, last night -- you know, I was trying to
12 identify -- you know, I gave -- I put out my tentative
13 instruction, I made clear there were two alternative
14 instructions -- both of them were very tentative -- and it is
15 something that requires further discussion this afternoon.

16 I was -- last night I was reading the cases, and I was
17 trying to figure out, well, what is Monsanto's best case for
18 this because it seems like they are a little bit behind the
19 eight-ball on this causation question. And I guess I thought,
20 you know, it was hard to -- I couldn't find any case directly
21 on point involving a situation where there is, you know, one --
22 directly on point in Monsanto's favor, at least involving a
23 situation where, you know, there are two -- there are two risk
24 factors being argued about. And one side says this risk factor
25 caused it, and the other side says that risk factor caused it.

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1 And in that situation, you don't give some sort of
2 multiple causation instruction. And in that instruction -- and
3 in that situation you do give the but-for sentence. I think
4 maybe Vecchione is their best case, even though it doesn't seem
5 exactly on point.

6 So I just wanted to make sure that both sides are prepared
7 to discuss the Vecchione case this afternoon. And also just if
8 you think there is some case out there that involves this
9 precise scenario that I'm missing, tell me about it.

10 And, again, it is a situation where the Plaintiff is
11 saying, This risk factor caused my cancer; and the Defendant is
12 saying, No, this other risk factor caused my cancer. And, you
13 know, both risk factors are present. At least there is
14 substantial evidence that both risk factors are present in the
15 case. You know, what is your -- what is your case law for the
16 proposition that in that scenario you don't give a multiple
17 causation instruction, and in that scenario you do give that
18 but-for sentence.

19 So that's what I want to discuss -- I want to make sure we
20 focus on this afternoon.

21 **MR. KILARU:** Sure.

22 **MS. MOORE:** Your Honor, one case I would direct the
23 Court's attention to -- it is a California State case. I don't
24 know how to pronounce it. The first name is Logacz versus
25 Limansky, and the cite --

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1 **THE COURT:** Remind me the name of it.

2 **MS. MOORE:** L-O-G-A-C-Z versus Limansky. And,
3 Your Honor, if you want, I can hand you this copy. It is not
4 marked on.

5 **THE COURT:** No. That's fine.

6 **MS. MOORE:** That is a California Court of Appeals
7 case.

8 **THE COURT:** What is the citation?

9 **MS. MOORE:** That's what I'm trying to find.

10 **MR. KILARU:** 71 Cal. App. 4, 1149, Your Honor.

11 **MS. MOORE:** There you go.

12 And it is the situation where the Plaintiff offers -- it
13 is a medical malpractice case. Plaintiff offers one theory of
14 causation, and the defense offers a different theory; and they
15 said it was concurrent causes.

16 **THE COURT:** Well, I mean, again, we can get into it
17 more this afternoon; but it seems like there is either no
18 testimony or barely any testimony of concurrent dependent
19 causation, right? The only -- it seems like the only evidence
20 you have is of independent causation. There has been no
21 testimony that hep C worked with Roundup to cause cancer.

22 So that is one of the difficulties of this case is that
23 the model instruction seems targeted primarily at a situation
24 where two things combined together to cause somebody's cancer.
25 And at least as it relates to hep C, there has been no

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1 testimony provided, no evidence provided that the two things
2 combined together to cause Mr. Hardeman's NHL.

3 So that is one of the things that we have a problem with
4 is that even if we were to give some sort of multiple causation
5 instruction, it seems like it might be quite problematic to
6 give the one that is -- that is provided in the model set. So
7 that's what --

8 **MS. MOORE:** One --

9 **THE COURT:** -- one of the things we need to discuss
10 this afternoon.

11 **MS. MOORE:** Thank you, Your Honor.

12 **MR. STEKLOFF:** While we have the record open, can I
13 clarify a few exhibit issues?

14 **THE COURT:** Yeah.

15 **MR. STEKLOFF:** So last week after the depositions of
16 Dr. Ye and Dr. Turk, we moved in TX38, TX41, TX42, TX43 and
17 then TX1023, the following pages: 109 through 110, 113 through
18 115, 282 through 283, 381 through 382, 797 through 798, 841
19 through 861, and 1562 through 1564.

20 Ms. Moore appropriately wanted to take time to review
21 those. She confirmed over the weekend -- that there was no
22 objection to those being admitted.

23 **MS. MOORE:** That's correct.

24 **MR. STEKLOFF:** Then I just want to clarify, after the
25 Reeves' deposition, I had mentioned Exhibit 95 because that was

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1 the deposition exhibit that was referenced. It is actually
2 TX1178. So we would move in TX1178 I think with no objection.

3 **MS. WAGSTAFF:** No objection.

4 (Trial Exhibits 38, 41, 42 43, 1023 and 1178 received
5 in evidence)

6 **THE CLERK:** So get rid of 95?

7 **MR. STEKLOFF:** Get rid of 95. That was the wrong
8 number. I apologize.

9 And then Ms. Wagstaff moved in a series of exhibits after
10 the Reeves' deposition as well, and we have reviewed those and
11 I have no objection to those coming in.

12 **MS. MOORE:** Those are Exhibits 505, 506, 508, 509,
13 510, 511, 512, 514 and 515.

14 **THE COURT:** Okay.

15 (Trial Exhibits 505, 506, 508, 509, 510, 511, 512, 514
16 and 515 received in evidence)

17 **MR. STEKLOFF:** And, Your Honor, Dr. Levine is now in
18 the courtroom. So I will say it publicly with you here and her
19 here that Dr. Levine understands she is not to opine on general
20 causation or the epidemiology. She is here to rely on
21 Dr. Mucci's testimony for that, and she will be offering
22 opinions about Mr. Hardeman specifically and specific
23 causation. And she knows that that is the case, both on direct
24 and cross, unless on cross she is directly asked about general
25 causation. And I will even tell her that before on cross if

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1 she thinks there is something, maybe she should pause and look
2 to Your Honor to get permission to say anything about general
3 causation because she is not here for that purpose today.

4 **THE COURT:** Let the record reflect that she is nodding
5 her head vigorously in response to all of those comments.

6 **MR. STEKLOFF:** Thank you.

7 **THE COURT:** Okay. I thought I had one other thing for
8 you-all. Let me think. I was just going to ask: In terms
9 of -- is there anything more you can tell me about scheduling,
10 how long you think the various witnesses are going to take, how
11 long you anticipate for closing arguments, things like that?

12 **MR. STEKLOFF:** Yes, Your Honor. On behalf of Monsanto
13 I think we have approximately 45 minutes left this morning with
14 Dr. Levine on direct. I don't know how long the cross will be.
15 I think that Dr. Arber is 45 minutes or less on direct. So our
16 expectation, depending on the cross, is that we would actually
17 finish early today. We will be resting after Dr. Arber.

18 And then in terms of closing, I will say -- I would like
19 it to be an hour, but probably give or take 10 or 15 minutes on
20 either side. So I think -- if I go over an hour and 15
21 minutes, I won't be happy with myself. So I think that's what
22 I would anticipate.

23 **THE COURT:** Okay.

24 **MS. WAGSTAFF:** And Plaintiff anticipates an hour to an
25 hour and a half in closing as well tomorrow.

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1 **THE COURT:** Do you -- is there anything you can tell
2 me about cross-examination of these two witnesses? I know it
3 is hard to predict.

4 **MS. MOORE:** That's true, Your Honor. I don't think
5 Dr. Arber will be very long at all. I think it would be less
6 than half an hour. And then on Dr. Levine, it is just going to
7 depend on what she says about hepatitis C, but I would suspect
8 it would be under an hour.

9 **MS. WAGSTAFF:** So, Your Honor, on scheduling --

10 **THE COURT:** I guess I should have told you to be
11 prepared to close today, but I will not make you do that.

12 **MS. WAGSTAFF:** Your Honor, on scheduling for
13 Phase Two, we are trying to get our live witnesses here. There
14 are still some pending motions on the witnesses.

15 **THE COURT:** Uh-huh.

16 **MS. WAGSTAFF:** Specifically Dr. Benbrook. Do you know
17 when we will expect a ruling on that?

18 **THE COURT:** I will bump it up to the top.

19 **MS. WAGSTAFF:** Okay. Thank you.

20 **THE COURT:** And, in fact, given that we are ending
21 early today, it seems likely I will be able to deal with it
22 today. And it is something that I have looked at before; but
23 as I sit here, I don't remember what the issue is.

24 So I think that what we will -- so it looks pretty clear
25 that we will be done -- by the way, are you calling any

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1 witnesses in rebuttal?

2 **MS. WAGSTAFF:** We are figuring that out right now; and
3 if we do, it is going to be something really small by video.

4 **THE COURT:** Okay. So it sounds like the evidence will
5 be done with the Phase One evidence today for sure, and --
6 which means we will instruct them and proceed with closing
7 arguments tomorrow morning, first thing, at 8:30. And then --
8 which means you should be ready to do your openings for
9 Phase Two first thing Wednesday morning.

10 **MR. STEKLOFF:** Do you instruct the jury before or
11 after closing arguments?

12 **THE COURT:** I instruct them before.

13 **MR. STEKLOFF:** And then do you have a -- a deadline
14 and a process through which you would like us to provide you
15 our closing argument slides?

16 **THE COURT:** Slides? Why don't we say 7:00 a.m. on
17 Tuesday morning -- yeah, Tuesday morning.

18 **MS. WAGSTAFF:** Your Honor, do you allow rebuttal?

19 **THE COURT:** Tomorrow morning.

20 **MR. STEKLOFF:** I assume those are via e-mail to your
21 chambers, without the other side?

22 **THE COURT:** That's correct. And any rebuttal slides
23 you might use, you have to send those as well.

24 **MS. WAGSTAFF:** Rebuttal for my opening, you are
25 talking about?

1 **THE COURT:** For closing.

2 **MS. WAGSTAFF:** For closing, yes.

3 **THE COURT:** Yes.

4 **MS. WAGSTAFF:** Thank you.

5 **THE COURT:** As then I said, this afternoon when we
6 discuss jury instructions, we can also discuss any concerns
7 that the other side has about -- and it is something that
8 counsel might raise at closing -- that would not be
9 appropriate, and we can try to pre-adjudicate some of those
10 questions. Okay.

11 **MR. STEKLOFF:** Thank you.

12 **THE COURT:** See you at 8:30.

13 **THE CLERK:** Court is in recess.

14 (Recess taken at 8:21 a.m.)

15 (Proceedings resumed at 8:42 a.m.)

16 **THE COURT:** Go ahead and bring in the jury.

17 (Proceedings were heard in the presence of the jury:)

18 **THE CLERK:** Please be seated.

19 **THE COURT:** Good morning, everybody. Hope you had a
20 nice weekend. We are ready to resume with Dr. Levine.

21 **ALEXANDRA LEVINE,**

22 called as a witness for the Defendant, having been previously
23 duly sworn, testified further as follows:

24 **DIRECT EXAMINATION** (resumed)

25 \\\

1 BY MR. STEKLOFF

2 Q. Good morning, Dr. Levine.

3 A. Good morning.

4 Q. Let's see -- okay. So when we left off on Friday, we were
5 walking through a little bit of your background, and I think we
6 had finished talking about this slide about your research
7 experience, correct?

8 A. Yes.

9 Q. So on the next slide -- you had told the jury on Friday
10 that you have published over 300 peer-reviewed articles, and I
11 think we had -- on this slide you have published on lymphomas,
12 including lymphomas caused by HIV, something called HTLV1 and
13 hepatitis C, correct?

14 A. That is correct.

15 Q. And just -- can you explain for the jury what some of the
16 journals are on this slide? And, first of all, are these
17 journals in which you have published?

18 A. These are some of the journals in which I have published.
19 On the top row are more general medicine articles. They are
20 for people who are doctors who are engaged in all different
21 kinds of specialties. The examples on the bottom are specialty
22 journals. These would be read specifically by people who are
23 hematologists or hematologists/oncologists or oncologists. So
24 I have written in general medicine journals, some of the best
25 ones, and also in specialty journals.

1 Q. Are these -- you mentioned "best ones." Are these some of
2 the most read journals either in general medicine on the top,
3 the *New England Journal of Medicine*, *Annals of Internal*
4 *Medicine*, and the *Journal of the American Medical Association*?

5 A. Yes. They are rated by something called impact factor,
6 and these are extremely high impact factor journals.

7 Q. And then with respect to the journals on the bottom, *Blood*
8 and *Journal of Clinical Oncology*, are those, within the world
9 of oncology and hematology, similarly high-impact journals?

10 A. Yes, they are.

11 Q. And have you -- apart from having published some of your
12 research, have you -- the jury has heard about this from other
13 witnesses -- have you also served as an editor on journals?

14 A. Yes, I have.

15 Q. And have you also served as a peer reviewer reviewing
16 articles that are submitted to be published?

17 A. Yes. That is one of the responsibilities of doctors who
18 work in academic medicine to review those articles, and I
19 review perhaps one a week, maybe one every other week.

20 Q. And so you are still continuing to do that?

21 A. Yes.

22 Q. And, again, these are just -- you have published in and
23 edited and peer reviewed in other journals other than these
24 five. We just wanted to use this as some examples?

25 A. That's correct.

1 Q. Now, have you also, in your 40-year career, received
2 various honors and awards?

3 A. Yes.

4 Q. And did we highlight some of those on this slide?

5 A. Yes.

6 Q. And it says here when you were at the Keck School of
7 Medicine at USC, you received the Outstanding Clinical
8 Professor Award, I think, six different times. Can you just
9 explain why that was -- if it was, why that was meaningful for
10 you?

11 A. I love to teach, and it is important to me to teach. When
12 I do, I spend a lot of time doing it. They made a rule at a
13 certain point that it can only be received every other year or
14 every fifth year. So I received a few more but they were not
15 valid.

16 Q. And then I see that you also received in 1994 something
17 called the University of Southern California Presidential
18 Medallion. Can you explain briefly to the jury what that was?

19 A. Yes. That is an award given by the president of the
20 university to somebody who has gone outside of the university,
21 if you will, to bring honor back to the school.

22 Q. And are we going to talk about some of the ways in which
23 you -- in which you did that?

24 A. Yes.

25 Q. And then I see here that you were a member and chair of

1 research committee, the Presidential Advisory Council on
2 HIV/AIDS and were appointed by President Bill Clinton. Again,
3 just briefly can you explain to the jury what your role was
4 there?

5 **A.** My role first was to recommend to the President the state
6 of the AIDS epidemic, what the biggest issues and problems
7 were, what we needed to spend money on, how we needed to
8 research particular areas.

9 We spoke about his "bully pulpit." Sometimes the
10 President can do things just by saying something, and we wanted
11 to make sure that this was important to him and that he did use
12 his "bully pulpit" to be able to educate the United States and
13 to help us to end the epidemic.

14 **Q.** And then lastly I see here that in March 2019 the
15 University of Texas, the MD Anderson Cancer Center -- just to
16 pause there, is that another -- like City of Hope --
17 well-regarded, elite cancer center in the United States?

18 **A.** Yes, both the City of Hope, where I work now, and MD
19 Anderson are comprehensive cancer centers funded by the
20 National Cancer Institute to take care of patients; to teach
21 and also to do research and bring the field forward.

22 **Q.** And it says here you are being recognized as the Margaret
23 Kripke Legend Award for promotion of women in cancer medicine
24 and cancer science. Can you just explain to the jury, again,
25 why that is meaningful to you?

1 **A.** It is meaningful to me because it is a mentoring award.
2 When I first started medical school, I was one of 12 women.
3 Now maybe half of the people in medical school are women. The
4 field has changed, and it was important to me to make sure that
5 my fellow women were included in this field of medicine and
6 research, so it felt good for me to get that award.

7 **Q.** And you mentioned some of -- how you were honored at USC.
8 Have you done international public health consulting across the
9 world specifically regarding HIV and AIDS?

10 **A.** Yes, I have. So --

11 **Q.** Without going through every single year and every single
12 country, can you just describe generally when you have
13 consulted for other countries what the work entailed?

14 **A.** The work entailed, first of all, meeting with the Public
15 Health Department, the people in charge of the Public Health
16 Department; ascertaining what they believed their needs were.
17 I would always do research beforehand to look at the status of
18 the AIDS epidemic in that particular country. I primarily
19 assessed the situation in each of these countries with the
20 Public Health Department.

21 My next step was to educate. I was -- I was taken to
22 Mongolia even to educate the doctors there, the people there,
23 the nurses there. So I educated a good deal.

24 And then I helped to propose policies that might be useful
25 in the countries for trying to diminish the AIDS epidemic in

1 those countries.

2 Q. Now, did we prepare a slide just to explain to the jury
3 what we are going to walk through next?

4 A. Yes.

5 Q. And so are the three things that we are going to cover
6 next: First of all, what is non-Hodgkin's lymphoma; second,
7 did Roundup cause Mr. Hardeman's non-Hodgkin's lymphoma; and
8 third, what are Mr. Hardeman's risk factors for non-Hodgkin's
9 lymphoma?

10 A. Yes, that's what I would want to discuss.

11 Q. And so did we prepare some slides so you could explain to
12 the jury first what cancer is and how cancer develops?

13 A. Yes, and these are the slides.

14 Q. Okay. So using this slide, can you please explain to the
15 jury what cancer is?

16 A. Yes. Just to start at the beginning, the cells in our
17 body are beautifully controlled in terms of when they grow and
18 when they stop growing. One example to talk about it is, for
19 example, if you get a cut on your skin. And if you do, all of
20 a sudden the cells on both sides of the cut get a message that,
21 Oh, there is a defect there. I better grow and fill in that
22 cut. And they do. And the cut heals and that's the end of
23 your injury.

24 The cells don't keep growing and growing so that you have
25 a whole mound of cells every time you cut yourself. So as soon

1 as the cells know to grow, they do. And as soon as one cell
2 touched another, as they are healing that wound, they know how
3 to stop.

4 And all of that tremendous regulation, specific
5 regulation, control like that, comes from the DNA. And the DNA
6 is shown on the right side of the slide. The DNA is your
7 genetic material.

8 Half of the DNA comes from your mother; the other half of
9 the DNA comes from your father. And all -- everything about
10 you in a sense comes -- starts with that DNA. Things that are
11 as easy as the color of your hair or the color of your eyes or
12 how tall you are going to be, that kind of thing. And also it
13 has complicated as how does a cell know how to grow, how to
14 stop, how to live, how to die.

15 So that is the normal situation with cells and how their
16 growth is controlled.

17 **Q.** And then what -- can you explain using this slide what a
18 cancer cell is?

19 **A.** Yes. I will start on the DNA here on the right side.
20 Cancer ultimately is caused by an accident, an error of some
21 sort, on the DNA. And that error says to the cell, Divide,
22 divide, divide, forever and never stop.

23 Now, that accident or error, we call that a mutation. And
24 there are things that are commonly known. Radiation can cause
25 those kinds of accidents or errors. Tobacco can cause that

1 kind of error. We will talk about it perhaps. But when that
2 error occurs in forming cancer, if that accident occurs in a
3 stomach cell, then the stomach cell divides over and over and
4 over and you get stomach cancer. If that happens in a lung
5 cell, the lung cell will divide over and over without control,
6 and that's lung cancer. If that happens in a B lymphocyte, one
7 of the cells of the immune system, then that B lymphocyte is
8 going to grow over and over and won't know how to stop.

9 **Q.** And so what does this slide -- as compared to the slide
10 that shows one cancer cell, what does this slide with numerous
11 cancer cells demonstrate?

12 **A.** What it is trying to show is that as these cells are
13 growing at a certain point, the person, the patient knows it.
14 There is a lump. There is a big lymph gland someplace, or a
15 lump in the stomach, in the belly. Or a lump in the chest
16 X-ray, which you can't see; but it is seen as a mass, as a lump
17 on a chest X-ray, for example. The other consequence is
18 that -- let's just say that this occurred in a liver. It takes
19 up space in that liver so that the normal liver cells don't
20 have room to be functioning anymore.

21 So the liver won't work and the person can get in trouble
22 with liver failure. If this occurs in bone marrow, crowds
23 up -- that is the factory where all the blood cells are made.
24 If that whole factory is filled with the cancer cells, there is
25 no room for the normal cells to be made; and the person gets

1 anemic and gets in trouble with low white blood cells and low
2 platelets. So that's what happens.

3 Q. Again, so the next slide says cancer requires two defects.
4 So can you explain what this slide is -- how it is that cancer
5 requires two defects?

6 A. Yes. I think this is an interesting area, and something
7 that is being used very aggressively now as we develop new
8 treatments. In any event, this starts -- the cancer starts, as
9 I said, with the mutation or the error, the accident in the
10 DNA. But that should be seen by our defense system, our immune
11 system, as foreign.

12 So our defense system, for example, is supposed to see a
13 germ, a foreign germ; know that it is foreign and kill it so
14 that we don't die of that infection. Well, it turns out that
15 an abnormal cell with that defect in the DNA, that is foreign
16 to us also. That is not the same cell as me anymore, and the
17 immune system should be able to see that cell as foreign and
18 knock it down.

19 And so what we have learned is that the two defects that
20 require actual clinical cancer to develop, number one, the
21 defect; number two, some failure of the immune system, some
22 weakness of the immune system so that it can't recognize that
23 cancer cell as foreign and destroy it.

24 Q. And so just to be clear, on the left that is showing what
25 you referred to as a mutation that leads to a cancer cell; is

1 that right?

2 A. Correct.

3 Q. And then on the right there are two sort of ribbons or
4 pretzels, and they look like they are attacking the cancer
5 cell; is that correct?

6 A. Yes. I was trying to draw an antibody molecule; but, yes,
7 that was an attempt to show the immune system recognizing that
8 cancer cell and killing it directly.

9 Q. And so for cancer to occur, those antibodies shouldn't be
10 working; is that right? Or wouldn't be working?

11 A. For cancer to occur, it is more complicated than that.
12 There will be some weakness perhaps in the antibodies, but also
13 T-cells are many different components of the immune system. So
14 many different aspects are not working properly.

15 Q. And what happens to all of us as we age with respect to
16 our immune system and our ability to fight cancer cells, if
17 they exist?

18 A. Yes. As we age, our immune systems weaken. And that is
19 just a part of normal aging. Most cancers that we have of all
20 kinds occur in people who are older. And one of the reasons
21 for that is simply the immune system, the defense system, has
22 weakened in an older person.

23 Q. Now, did you also want to discuss with the jury -- they
24 have heard about the concept of latency and how long it can
25 take for cancer to develop. Is that something you wanted to

1 discuss with the jury?

2 **A.** Yes, I would.

3 **MR. STEKLOFF:** Your Honor, may Dr. Levine step down to
4 use the board?

5 **THE COURT:** Sure.

6 **BY MR. STEKLOFF**

7 **Q.** Just make sure that you face Ms. Knox, if possible. It is
8 hard for her --

9 **A.** So this is my attempt to show what happens when cancer
10 first begins. And on this side of the curve, along
11 horizontally here, we have time going on. And on the vertical
12 axis here, we have number of cancer cells. And this is any
13 kind of cancer.

14 So the accident that I was talking about -- excuse me --
15 is right here. That's where the accident, error, occurs. What
16 happens during that time then is potentially a long time where
17 the cancer cell maybe is growing a little bit, but the immune
18 system is also keeping it in check -- keeping it in check. In
19 time if the immune system is weaker and the cancer is the
20 winner, let's say, in time the amount of cancer in the body,
21 quote, pops above the line of being diagnosed.

22 What I mean is this: All of this time here we can't find
23 that tumor no matter how hard we look, nor does the patient
24 have any symptom of any sort. So the patient would come into
25 me, right now here, and say -- when it is below the level of

1 detectability, and say to me, I think I have cancer. You
2 should take out every single organ in my whole body and find
3 it. Obviously I wouldn't, but if I did that, we couldn't find
4 it. It is completely hidden to the doctor no matter how hard
5 we look and to the patient as well.

6 When it pops above that line, a certain number of cancer
7 cells are required for anything clinically to be diagnosable;
8 to the patient or to the doctor. When the patient comes in
9 here, yes. The patient comes in because there is a big lump
10 someplace or some other symptom. Comes to the doctor. The
11 doctor does a CAT scan, a biopsy, blood test and can diagnose
12 it.

13 One way to think about this long period that might be more
14 familiar to you relates to smoking, tobacco. And so as an
15 example here, what I'm trying to teach is that this is not
16 unusual in any sense at all for this initial accident to take
17 decades, a long, long time, before it ever pops above the line
18 of the diagnosability.

19 So one of the guidelines in the United States right now
20 for doctors such as myself, who take care of cancer patients --
21 there are new guidelines related to an attempt to cure and
22 diagnose lung cancer early in people who have smoked for a
23 long, long time. If you can diagnose lung cancer very early
24 when it is just one little mass on the chest X-ray, that's
25 curable. You can cut it out. That's easy. Nothing is easy,

1 but it is curable.

2 If you diagnose it late, when it has already spread into
3 other areas of the body, that is a whole different ball game.

4 So the goal was if we in the United States could figure
5 out how to find an early lung cancer among chronic smokers,
6 that would really help everyone. Many studies were done. And
7 the guideline is as follows: In people who have smoked
8 cigarettes for 35 years or more and now stopped, and they
9 stopped smoking for up to 15 years -- so they stopped smoking
10 14 years ago, 13 years ago, 10 years ago -- what we do now --
11 what we are asked to do now is to get CAT scans of the lungs
12 each year to find these isolated, these simple little lung
13 cancers. And it has worked. We have picked up about
14 20 percent of individuals who would -- if we had not done that
15 early screening, who would have come in much later and not been
16 cured.

17 In other words, they were smoking. They were exposed to
18 something that caused accidents. They had 35 years to -- or
19 more -- you know, to be exposed to those accidents, but they
20 stopped smoking 15 years ago or 14 years ago. They are still
21 at risk. They are at risk for developing lung cancer. They
22 had it here. We couldn't find it. If you do those early CAT
23 scans, you can catch it right above the line as opposed to
24 catching it when the tumor cells are so high that you can't
25 cure it anymore.

1 Obviously that is a tremendous advantage to the patients,
2 to be cured, and it is a tremendous advantage to the United
3 States as well. So Medicare, as an example, pays for this. It
4 is going to be much cheaper for all of us if we simply do this.

5 **MS. MOORE:** Your Honor, I would just ask that she not
6 get into that level of detail on Medicare.

7 **THE COURT:** Overruled.

8 **BY MR. STEKLOFF**

9 **Q.** Dr. Levine, are we going to talk later about hepatitis C
10 as it related to Mr. Hardeman?

11 **A.** Yes, we are.

12 **Q.** And just briefly using this board, would it be helpful to
13 talk about how latency -- that latency concept with respect to
14 hepatitis C?

15 **A.** Yes. It is really true of all the different cancers, and
16 it is certainly true of hepatitis C-related cancers. Accident
17 occurs down here. Takes years and years and years and
18 eventually -- eventually, that cancer may be seen.

19 **Q.** Okay. Thank you. You can take your seat.

20 Now, as the jury knows, we are here to talk about --
21 specifically about non-Hodgkin's lymphoma, correct?

22 **A.** Correct.

23 **Q.** And then even more specifically, Mr. Hardeman had diffuse
24 large B-cell lymphoma, correct?

25 **A.** That's correct.

1 Q. And so can you just briefly, using this slide, explain to
2 the jury what non-Hodgkin's lymphoma is?

3 A. Yes. Non-Hodgkin's lymphoma basically is a cancer of the
4 immune system. So that is going to be difficult right off the
5 bat. These lymphomas can come from either B lymphocytes, which
6 make antibodies to kill germs, or from T lymphocytes, which
7 directly can kill germs. I think it is exceedingly important
8 to understand that if I say non-Hodgkin's lymphoma, that is not
9 one disease. There are at least 60 different types of
10 non-Hodgkin's lymphoma, and these are different diseases. They
11 are potentially caused by different things. They are treated
12 in a different way. The clinical illnesses that we see are
13 different. The prognosis, how somebody will do with treatment,
14 are different. So non-Hodgkin's lymphoma is a big name, and
15 under it are very, very different discrete specific subtypes.

16 Lymphoma -- these lymphocytes, normally are developed in
17 the lymph glands. They start to grow, as I demonstrated. And,
18 again, this usually begins in the lymph glands; but those cells
19 normally have to travel all over the body because they are
20 looking for germs or foreign things. And the lymphoma cells,
21 the malignant cells, will also travel all over the body just
22 because that's what those lymphocytes do. So they travel.

23 Q. And in terms of non-Hodgkin's lymphoma here in the United
24 States, can you just walk the jury through some of the
25 statistics provided here?

1 **A.** Yes. There are about 75,000 people diagnosed with
2 lymphoma in the United States each year. So about 1 in 47
3 people will get this. The most common type of non-Hodgkin's
4 lymphoma is the type that Mr. Hardeman had, and that is diffuse
5 large B-cell lymphoma. About 30 to 35 percent of them are
6 diffuse large B-cell lymphoma.

7 **Q.** So, Dr. Levine, before we walk through your opinions about
8 Mr. Hardeman -- and I want to explain to the jury what it is --
9 some of the materials that you reviewed in forming those
10 opinions. Okay?

11 **A.** Sure.

12 **Q.** First of all, did you review all of Mr. Hardeman's
13 available medical records?

14 **A.** I did.

15 **Q.** Did you also review Mr. Hardeman's deposition testimony?

16 **A.** I did.

17 **Q.** And then the jury has heard from three of Mr. Hardeman's
18 treating physicians: Dr. Ye, Dr. Turk and Dr. Turley. Did you
19 review their testimony?

20 **A.** Yes, I did.

21 **Q.** And are all of the opinions that you are going to offer
22 here today, and have already offered, to a reasonable degree of
23 medical certainty?

24 **A.** They absolutely are. Physicians, doctors are different
25 maybe. It has to be reasonable. There -- you know, people's

1 lives are depending on us, and what we know and how we look at
2 things and how carefully we look at things. So when I say that
3 this is my opinion, it is based on data which is extensive and
4 which I'm going to use to actually take care of people who need
5 to be treated well and who need to live.

6 Q. And so are you going to tell the jury anything today that
7 you -- are you going to tell the jury exactly what you would
8 tell a patient if you were treating a patient?

9 A. Yes, I already have. I always draw that picture. I
10 always do. And that's exactly what I will do here.

11 Q. And are you going to tell the jury exactly what you would
12 go tell any doctor at City of Hope, an oncologist, a
13 pathologist or any other specialty?

14 A. Certainly.

15 Q. So did you review -- Dr. Weisenburger testified last week.
16 Did you review his testimony that he gave to the jury?

17 A. Yes, I did.

18 Q. And specifically did you review the testimony he gave
19 about what he calls his differential method?

20 A. Yes, I did.

21 Q. Have you, in your 40-plus-year career as an oncologist,
22 ever used that method to determine the cause of a patient's
23 non-Hodgkin's lymphoma?

24 A. No. A differential diagnosis is used to figure out what
25 the diagnosis is. Patient comes with all kinds of different

1 symptoms, and we get lab tests, other kinds of tests, and
2 finally determine what is the actual illness, what is the
3 diagnosis. But I have never used a differential diagnosis to
4 try to figure out the cause of a certain tumor.

5 Q. So what Dr. Weisenburger did with the chart -- where he
6 listed the risk factors and crossed them off -- have you ever
7 done that for a non-Hodgkin's lymphoma patient to determine the
8 cause -- the cause of his or her cancer?

9 A. No.

10 Q. Have you heard of someone else at City of Hope or at USC,
11 another oncologist, who has used that method to determine the
12 cause of a patient's non-Hodgkin's lymphoma?

13 MS. MOORE: Objection, Your Honor. Hearsay.

14 THE COURT: Overruled.

15 THE WITNESS: No, I have not.

16 BY MR. STEKLOFF

17 Q. And so do you think that what Dr. Weisenburger presented,
18 his differential method, was a scientifically valid method to
19 determine the cause of Mr. Hardeman's non-Hodgkin's lymphoma?

20 A. I do not.

21 Q. Now, you are here today specifically -- other than the
22 background information that you provided -- but going forward,
23 you are here to talk specifically about Mr. Hardeman, correct?

24 A. Correct.

25 Q. Have you reviewed the epidemiological literature that the

1 jury has heard about regarding glyphosate or Roundup and
2 non-Hodgkin's lymphoma?

3 **A.** Yes.

4 **Q.** Have you also reviewed Dr. Mucci's testimony that she gave
5 on Friday to the jury?

6 **A.** Yes, I did.

7 **Q.** Are you relying -- for a discussion of that
8 epidemiological literature, are you relying on Dr. Mucci's
9 explanation to the jury so that you can focus here today on
10 Mr. Hardeman?

11 **A.** Yes, I am.

12 **Q.** And is Dr. Mucci's analysis that she provided to the jury
13 consistent with your own professional and clinical experience
14 as a practicing oncologist?

15 **A.** Yes, it is. She was careful in her evaluations. She is
16 an epidemiologist; whereas I am not.

17 **MS. MOORE:** Objection.

18 I'm sorry, Dr. Levine.

19 Objection, Your Honor. It goes beyond the scope.

20 **THE COURT:** You can briefly finish your answer.

21 **THE WITNESS:** What was the question?

22 **BY MR. STEKLOFF**

23 **Q.** The question was: Is Dr. Mucci's analysis consistent with
24 your own professional and clinical experience?

25 **A.** Yes, it is.

1 Q. What, if any, role -- now let's focus on your clinical
2 practice. What, if any, role does Roundup play in -- Roundup
3 or glyphosate play in your clinical experience, taking care of
4 patients with non-Hodgkin's lymphoma?

5 A. No role at all.

6 Q. Now, let's talk about Mr. Hardeman specifically. Okay?

7 A. Yes.

8 Q. Do you believe that Roundup or glyphosate caused
9 Mr. Hardeman's non-Hodgkin's lymphoma?

10 A. I do not believe that Roundup or glyphosate caused his
11 lymphoma.

12 Q. And the jury has heard this phrase -- and will hear this
13 phrase -- "substantial contributing factor." Do you believe
14 Roundup or glyphosate was a substantial contributing factor to
15 Mr. Hardeman's non-Hodgkin's lymphoma?

16 A. No, I do not believe that Roundup or glyphosate was a
17 substantial contributing factor to Mr. Hardeman's lymphoma.

18 Q. And we are going to talk more in a moment about -- the
19 jury has also heard the phrase "idiopathic." Are you familiar
20 with that phrase?

21 A. Yes, I am.

22 Q. We will talk more about that in a moment. But for now
23 what I want to ask you is in offering his opinion to the jury,
24 do you think that Dr. Weisenburger appropriately considered the
25 possibility that Mr. Hardeman's non-Hodgkin's lymphoma was

1 idiopathic?

2 **A.** No, I do not. There is nothing specific either under the
3 microscope or clinically or history in terms of the development
4 of the lymphoma that would indicate that this was anything
5 other than, in his parlance, idiopathic. That is not my view.
6 But he can't -- he did not distinguish the concept that
7 idiopathic is seen in great numbers, great percentages of
8 patients who have diffuse large B-cell lymphoma. We never know
9 what the cause is. And if you can't determine Roundup versus
10 idiopathic under the microscope or any other specific way, you
11 have to consider idiopathic is a real possibility as far as the
12 cause, i.e., we just don't know.

13 **Q.** Now, we are also going to talk more about hepatitis C and
14 hepatitis B. But in offering his opinions, do you think that
15 Dr. Weisenburger appropriately considered the possibility that
16 Mr. Hardeman's non-Hodgkin's lymphoma was caused by hepatitis B
17 or hepatitis C?

18 **A.** No, I do not think he was correct when he said that
19 neither hepatitis C or B had anything to do with Mr. Hardeman's
20 lymphoma.

21 **Q.** What, in your opinion, was the most likely cause of
22 Mr. Hardeman's non-Hodgkin's lymphoma?

23 **A.** I believe without question that the most likely cause of
24 his lymphoma was chronic infection by hepatitis C; 39 years of
25 active infection by hepatitis C, allowing a real opportunity

1 for an accident to occur. It could have occurred on day one of
2 the infection. It could have occurred on day one of year 39 of
3 the infection. For 39 years he was infected with a virus which
4 has been shown to cause diffuse large B-cell lymphoma.

5 **Q.** And what in your opinion is the second most likely cause
6 of Mr. Hardeman's non-Hodgkin's lymphoma?

7 **A.** I think the second most likely cause is hepatitis B. We
8 don't know a lot -- I don't know a lot of the detail about his
9 hepatitis B infection. I know that he has been infected in the
10 past with hepatitis B, based upon the very specific blood tests
11 that were done. I believe Dr. Weisenburger said he was immune.
12 What that means is he has been infected in the past with
13 hepatitis B. Hepatitis B also causes accidents in that DNA.
14 Hepatitis B could be a cause, but I just don't know enough
15 about his hepatitis B from the records to be able to say that
16 that is the primary cause. So I believe that the primary
17 cause, or most significant factor, was hepatitis C, followed by
18 hepatitis B. Either could have done this.

19 **Q.** Now, in your opinion is it also possible that
20 Mr. Hardeman's non-Hodgkin's lymphoma was idiopathic?

21 **A.** Yes, it is also possible that it was idiopathic. You
22 can't really tell under the microscope. It is conceivable that
23 it was about 70 -- the literature is a bit different here, but
24 between 70 and 90 percent of cases of diffuse large B-cell
25 lymphoma are such that we don't know the reason. So it is

1 possible that it is just idiopathic. We don't know.

2 Q. Now, there has been testimony about oncologists who want
3 to know the cause of their patients' non-Hodgkin's lymphoma.
4 And my question for you is: If you, Dr. Levine, could know the
5 cause of every one of your patients' non-Hodgkin's lymphoma,
6 would you want to know?

7 A. I would absolutely want to know.

8 Q. And why is that?

9 A. Oh, all kinds of reasons. First of all, if I knew the
10 exact cause of a given case, I might be able to treat that
11 patient a little bit differently than I would be treating
12 somebody else. If somebody had been, for example, infected by
13 hepatitis C or hepatitis B, I would need to know that, even if
14 they didn't have a lymphoma. So what I mean by that is
15 hepatitis C -- if somebody is going to go on chemotherapy, I
16 would want to be very, very careful because of hepatitis C
17 hidden in the body someplace that might reactivate itself. I
18 would want to know about that.

19 If the patient had been infected by hepatitis B in the
20 past, as Mr. Hardeman, and that patient was then going to get
21 chemotherapy, I also would worry -- just as Dr. Ye did -- that
22 the hepatitis B might reactivate itself and because he knew at
23 some level that hepatitis B could be hidden in the body, he
24 chose to use a medicine. He gave Mr. Hardeman lamivudine, a
25 drug, to try to suppress hepatitis B.

1 Even though he said that Mr. Hardeman was, quote, cured of
2 his hepatitis C, that was a -- that was based on a blood test,
3 which isn't sensitive to show hepatitis C very low in the body.
4 And he knew that too. So we both are saying the exact same
5 thing, but he is acting in the way that I would. I'm very
6 respectful of him.

7 In other words, he spoke to Mr. Hardeman very carefully.
8 And said to Mr. Hardeman, We have some extra issues in your
9 case. One is you have chronic hepatitis C infection, a history
10 of that. I'm going to have to watch you more carefully than
11 usual to make sure that the chemo will be safe related to your
12 hepatitis C. He wouldn't have said that if he believed that
13 Mr. Hardeman was honestly cured; that there was not one last
14 little HCV.

15 **MS. MOORE:** Sorry, Dr. Levine.

16 Objection, Your Honor. Speculation. Hearsay.

17 **THE COURT:** That last sentence will be stricken.

18 **THE WITNESS:** He gave Mr. Hardeman a medicine, a
19 medicine that potentially has side effects. So every time we
20 give a medicine, that's a big deal. You are thinking about the
21 potential risks and the potential benefits of that medicine.
22 He gave lamivudine to Mr. Hardeman who had a history of
23 hepatitis B, who was, quote, cured of hepatitis B; but he gave
24 that medicine, knowing he gave that medicine.

25 \\\

1 BY MR. STEKLOFF

2 Q. Now, understanding your opinion that Roundup did not cause
3 Mr. Hardeman's non-Hodgkin's lymphoma or contribute to his
4 non-Hodgkin's lymphoma, let's say you could know that Roundup
5 caused one of your patient's non-Hodgkin's lymphoma. Would you
6 want to know that?

7 A. Oh, sure, I would.

8 Q. Okay. Now, if Mr. Hardeman had been your patient; and
9 based on your review of the medical records, would you have
10 ever told him that Roundup or glyphosate caused his
11 non-Hodgkin's lymphoma?

12 A. No, I don't believe it does.

13 Q. Now, let's turn back to the idiopathic. And let's discuss
14 that a little more for the jury.

15 What does it mean for a cancer or non-Hodgkin's lymphoma
16 to be idiopathic?

17 A. It means that we don't know the cause. We are able to
18 diagnose this under the microscope and so forth, but we don't
19 know why it occurred. We don't know what caused that accident.

20 Q. And I think you mentioned a moment ago that the literature
21 differs, but I think -- just to get this -- did you say between
22 70 percent and 90 percent of non-Hodgkin's lymphomas are
23 considered idiopathic?

24 A. That's correct. The majority without question are
25 idiopathic. And the literatures are somewhat diffuse in that

1 regard. Some of the papers say as low as 70 percent. Some say
2 as high as 90 percent.

3 Q. And is that -- the 70 to 90 percent, does that also apply
4 to specifically diffuse large B-cell lymphoma?

5 A. Yes, that applies to diffuse large B-cell lymphoma.

6 Q. What about in your practice, what percentage of -- not
7 that you have done a scientific assessment -- but an estimate,
8 what approximate percentage of your patients are idiopathic in
9 your opinion?

10 A. I have not counted this up, but my belief is that my
11 patients are more likely to have lymphomas -- non-Hodgkin's
12 lymphomas with known cause, specifically HIV or hepatitis C or
13 hepatitis B or HTLV1. My area of expertise is lymphomas caused
14 by infectious organisms caused by germs.

15 So other doctors refer patients to me from locally or
16 around the country or even around the world. So my belief is
17 that my practice is a bit different and more heavily weighted
18 towards organism, germ-related causes for the patients'
19 lymphoma.

20 Q. And you mentioned that includes HIV?

21 A. Yes, it does.

22 Q. Does that include hepatitis C or hepatitis B?

23 A. It includes HIV, hepatitis C, hepatitis B, yes.

24 Q. Now, you said a moment ago, I believe, that it is possible
25 that Mr. Hardeman's non-Hodgkin's lymphoma was idiopathic and

1 that you don't think Dr. Weisenburger fairly considered that.
2 Can you explain to the jury why it is possible that
3 Mr. Hardeman's non-Hodgkin's lymphoma was idiopathic?

4 **A.** It is possible because in his particular case we have not
5 looked at his B lymphocytes or his liver cells to know that he
6 has hepatitis C there. On the other hand, we do know that it
7 was present for all of those years, the 35 years.

8 The other side of the coin, looking at the tissue alone,
9 just the plain biopsy, you really can't tell. There is nothing
10 that distinguishes the hepatitis C diffuse large B-cell
11 lymphoma from an idiopathic case.

12 **Q.** So you mentioned hepatitis C. So let's now talk about
13 hepatitis C. The jury has heard a lot about hepatitis C, but
14 can you just briefly explain what hepatitis C is?

15 **A.** Hepatitis C is -- it is an RNA virus. One of the
16 interesting things about it is that our immune systems are
17 normally not very good at suppressing it. So when somebody is
18 infected by hepatitis C, about 15 percent of the time, 1-5, the
19 patient's immune system can clear it. And it is, quote, cured.

20 However, 85 percent of the time our immune systems cannot
21 cure it, and the patient then develops -- as Mr. Hardeman
22 did -- chronic infection by hepatitis C going on for years and
23 decades. Well, with that chronic infection, the cells that are
24 most involved are B lymphocytes and also liver cells. The
25 virus gets into liver cells and it also gets into B

1 lymphocytes.

2 The presence of hepatitis C in the liver causes a whole
3 reaction. It gets inflamed. All of these immune cells are in
4 there trying to knock it off. As it gets inflamed, eventually
5 the liver becomes scarred from all of that chronic infection
6 and chronic inflammation. Big amounts of scar tissue come down
7 on the liver, crowding out the regular liver cells so that they
8 cannot work anymore, and the patient goes into what we call
9 liver failure. So one outcome is liver cirrhosis, and it is an
10 outcome of chronic -- of long-term infection by hepatitis C.

11 The hepatitis C can also cause those accidents that I was
12 talking about. Hepatitis C can cause direct mutations in the
13 cells in which it lives. And that includes B lymphocytes and
14 liver cells. So hepatitis C is now a proven cause of liver
15 cancer, but in our case here, a proven cause of non-Hodgkin's
16 lymphoma and specifically diffuse large B-cell lymphoma.

17 **Q.** Mr. Hardeman had diffuse large B-cell lymphoma. Is
18 hepatitis C a proven cause of diffuse large B-cell lymphoma?

19 **A.** Yes, it is.

20 **Q.** Now, did you also -- based on your review of the medical
21 records, did you want to highlight a few of the medical
22 records -- Mr. Hardeman's medical records for the jury?

23 **A.** Certainly.

24 **Q.** So this is Exhibit 1023 at page 114, and it is dated
25 January 28th, 2005.

1 Dr. Levine, what does this record show?

2 **A.** This record shows that Mr. Hardeman was, in fact, infected
3 by hepatitis C. There are various subtypes of the virus. His
4 subtype was called genotype 2B. The amount of virus in his
5 blood in January of 2005 was quite high. It was 732,000 copies
6 for every drop of blood.

7 **Q.** So is this, in this January 2005 timeframe, when
8 Mr. Hardeman's hepatitis C was first identified by his doctors
9 at Kaiser?

10 **A.** This is when it was first identified, yes.

11 **Q.** Okay. Now, you also have this record from Dr. Turk dated
12 January 25, 2005. And what did you want to highlight for the
13 jury here?

14 **A.** The highlight here is that this hepatitis C could not have
15 been a recent infection. For the patient to have had actual
16 cirrhosis of the liver, that would have taken years. And that
17 meant to me that this was a chronic infection, just as it meant
18 to his doctor.

19 **Q.** So the jury has heard that Mr. Hardeman was first
20 exposed -- likely first exposed to hepatitis C in approximately
21 1966. Is that your understanding as well?

22 **A.** Yes, it is.

23 **Q.** So between 1966 and 2005, that is 39 years, correct?

24 **A.** Yes.

25 **Q.** And what does the fact that Mr. Hardeman developed

1 cirrhosis of the liver during that 39-year period tell you
2 about how long the hepatitis C was active in him?

3 **A.** The apparent exposure was in the 1960s. The first proof
4 that he had the hepatitis C was in 2005, 39 years later, and it
5 was chronic. He already had cirrhosis. And that says that
6 from the time of his exposure to the time of first diagnosis
7 was a very, very long time, similar to what I would have
8 expected actually.

9 **Q.** And do you recall also that Dr. Weisenburger testified
10 about this -- there was a record in the 1980s where
11 Mr. Hardeman had increased liver enzymes?

12 **A.** Yes, I saw that as well. It was 1989, I believe. And so
13 there were increased liver enzymes which would have been
14 consistent with active hepatitis C infection, at that time as
15 well.

16 **Q.** Okay. And you mentioned that it takes years for cirrhosis
17 of the liver to develop from hepatitis C. Can you give -- does
18 it take -- what is the sort of minimum amount based on the
19 literature that it appears to take?

20 **A.** People will be different depending on the immune system
21 and so forth. But this is long. It is at least a decade. It
22 is not years or months. It is a decade or decades.

23 **Q.** And so is it your opinion that Mr. Hardeman's cirrhosis
24 was caused by his hepatitis C?

25 **A.** Yes, I believe that is true. It is conceivable that

1 hepatitis B was involved as well, but I don't know enough about
2 his hepatitis B to be able to say that definitively.

3 Q. Does that tell you that most likely Mr. Hardeman had
4 active hepatitis C for at least ten years during that 39-year
5 period?

6 A. At least ten years, and this would be consistent with
7 other reports in the literature. I believe he had active
8 infection for a good 39 years, a long, long time.

9 Q. And did you also -- you mentioned how hepatitis C can
10 impact someone's body. Did you also prepare a board to walk
11 the jury through that?

12 A. Sure.

13 MR. STEKLOFF: Your Honor, may Dr. Levine step down
14 one more time?

15 THE COURT: Okay.

16 BY MR. STEKLOFF

17 Q. Dr. Levine, can you please walk the jury through what we
18 are seeing here, and please speak up.

19 A. So this is just repeating what I said before so that you
20 can get a visual image of it. When somebody is infected with
21 hepatitis C, the minority, about 15 percent, can actually fully
22 recover. The immune system can handle that and get rid of the
23 virus.

24 The vast majority, 85 percent of people, develop what we
25 were talking about: Chronic infection with that hepatitis C

1 that they cannot clear.

2 And there are two outcomes there. One is the patient just
3 has chronic hepatitis: Yellow eyes, sick, liver enzymes
4 elevated, liver not well, so to speak. So chronic hepatitis,
5 fatigue, tired, and so forth.

6 The other outcome, more severe, is cirrhosis, scarring,
7 chronic inflammation of the liver, scarring out at the liver,
8 and eventually end-stage liver disease. In other words, dying
9 of liver disease. So that is one outcome of chronic HCV
10 infection.

11 The other outcome of chronic HCV infection is cancer. One
12 of those cancers, the more common, is liver cancer directly
13 caused by long-term infection by HCV. It causes accidents in
14 the liver. It causes mutations in B lymphocytes because the
15 hepatitis B also lives and gets into B lymphocytes; causes
16 accidents in the B lymphocyte, and that may result in
17 non-Hodgkin's lymphoma, specifically diffuse large B-cell
18 lymphoma. So these are the usual outcomes of chronic
19 hepatitis C infection.

20 **Q.** And where, based on your opinions, is it most likely that
21 Mr. Hardeman fits in these various outcomes?

22 **A.** I think he -- I know he has cirrhosis. So I know that
23 part of it. I know he has lymphoma. I believe he is here. He
24 is cirrhosis with lymphoma.

25 **Q.** Thank you, Dr. Levine.

1 Dr. Levine, did you also prepare a slide to explain -- to
2 visually explain to the jury how hepatitis C causes
3 non-Hodgkin's lymphoma?

4 **A.** Yes, I did.

5 **Q.** Okay. So using this slide, what I'm hoping you can do is
6 actually start on the right side of the chart that says
7 marginal zone and explain what is happening there with
8 hepatitis C.

9 **A.** First, I said a while ago that there were more than 60
10 different types of lymphoma; and they are caused by different
11 things and different mechanisms, and this is going to be an
12 example of that, and an important one in this situation.

13 So what we see on top is a B lymphocyte, and it turns out
14 that the B lymphocyte has a -- I am going to call it a
15 receptor. I will call it now a lock, a receptor, a molecule, a
16 little structure on its surface.

17 This in orange is hepatitis C. And it turns out that
18 hepatitis C has a molecule on its surface which fits exactly
19 into the receptor on the B cell. One could think of it as a
20 lock and a key. All of medicine, all of biology works that
21 way. It has to be a perfect fit.

22 So what happens is the hepatitis C is the key. The B
23 lymphocyte is the lock. If hepatitis C is in the environment,
24 the key goes right into the lock. It attaches itself right
25 away to the B lymphocyte, and it causes that B lymphocyte to

1 divide over and over and over and over again, so that there is
2 a, quote, tumor, a mass, a lump of those cells.

3 This one is directly driven by hepatitis C. It needs
4 the -- I'm going to say -- call the hepatitis C the foot on the
5 gas pedal of these B cells, making them grow, making them
6 divide over and over. In this example, if you remove the
7 hepatitis C here, if you remove the hepatitis C, you are taking
8 your foot off of the gas pedal. You are taking the key out of
9 the lock, and the whole thing can go away. And it does. And
10 that's what they are talking about when treatment for marginal
11 zone lymphoma takes that tumor away 75 percent of the time.
12 That's marginal zone lymphoma. And that is the mechanism in
13 which it works.

14 Q. Let me stop you there. Did Mr. Hardeman have marginal
15 zone lymphoma?

16 A. No, he did not.

17 Q. And the jury has heard about the antiviral therapy that
18 Mr. Hardeman received between 2005 and 2006. You are familiar
19 with that, correct?

20 A. I am.

21 Q. And does that therapy reduce the likelihood of marginal
22 zone lymphoma?

23 A. Absolutely will reduce the likelihood of marginal zone
24 lymphoma.

25 Q. And is that because, as you said, the hepatitis C is

1 attached to the B cells and has to be there?

2 **A.** Yes.

3 **Q.** Now, explain -- now, let's talk about the left side.

4 First of all, I see DLBCL -- diffuse large B-cell lymphoma --
5 at the bottom. Is this the way in which you -- it is your
6 opinion that hepatitis C may or would have caused
7 Mr. Hardeman's non-Hodgkin's lymphoma?

8 **A.** Yes, it is.

9 **Q.** So can you explain that left side of the diagram, please.

10 **A.** Hepatitis C can directly cause accidents, mutations in the
11 DNA. Mr. Hardeman had mutations in his DNA. Once that
12 accident is there, the virus doesn't have to be there anymore
13 at all. We call that a hit-and-run kind of a mechanism. It is
14 what I was trying to explain when I was talking about tobacco.

15 So, again, people who stop smoking 15 years ago are still
16 at risk for lung cancer. The accident has happened. Doesn't
17 matter that they aren't smoking anymore. The accident happened
18 15 years ago, four years ago, whatever it is. This kind of
19 error is what really causes the diffuse large B-cell lymphoma,
20 and this is what Mr. Hardeman had.

21 In this particular case, if you get rid of hepatitis C
22 entirely, it doesn't matter. The accident is there. If you
23 get rid of smoking entirely, doesn't matter. The accident is
24 there.

25 **Q.** And so when we heard about this antiviral therapy and

1 Mr. Hardeman's sustained virological response, he didn't have
2 the positive hepatitis C test between 2006 and 2018. Does --
3 did the -- would the antiviral therapy have cured an accident
4 that took place through this hit-and-run mechanism?

5 **A.** No. The presence or absence of hepatitis C in the blood
6 or the body would have no effect. This accident, it wouldn't
7 matter. Once the accident was there, it was there. His immune
8 system would work with it well or not, but the accident is
9 there. Doesn't need the hepatitis C anymore.

10 **Q.** Now, is there peer-reviewed literature? Are there
11 articles that discuss exactly what you are showing on the left
12 side here, this direct accident in the DNA or the hit-and-run?

13 **A.** Absolutely.

14 **MR. STEKLOFF:** Your Honor, I would like to publish two
15 of those articles. The first is Exhibit 1448.

16 **MS. MOORE:** No objection, Your Honor.

17 **MR. STEKLOFF:** So I think we are going to pull that
18 up. Mr. Holtzen is going to help me.

19 **BY MR. STEKLOFF**

20 **Q.** So, Dr. Levine, is this an article titled Hepatitis C
21 Associated B-cell non-Hodgkin's Lymphomas, Epidemiology,
22 Molecular Signature and Clinical Management?

23 **A.** Yes, it is.

24 **Q.** And are we talking here, in your opinion, about a
25 hepatitis C associated B cell non-Hodgkin's lymphoma in

1 Mr. Hardeman?

2 A. Yes, we are.

3 Q. And if we can find the date at the bottom, is this article
4 from 2013 in the *Journal of Hepatology*?

5 A. Yes, it is.

6 Q. Is hepatology -- hepatologists the people who treat
7 hepatitis C?

8 A. Yes.

9 Q. And so if we turn to this first -- let me find the exact
10 spot -- on the first page, I believe, there is a section that
11 says -- that talks about B-cell non-Hodgkin's lymphomas. Here,
12 does this explain right at the introduction in that second
13 sentence: B-NHL subtypes most frequently associated with
14 hepatitis C virus are marginal zone lymphoma and diffuse large
15 B-cell lymphoma?

16 A. Correct, just what I was explaining before.

17 Q. Right. Is that consistent with what you just explained?

18 A. Absolutely.

19 Q. And then if we turn to page 172, do the authors of this
20 article walk through the mechanisms through which hepatitis C
21 can cause B-cell lymphomas?

22 A. Yes, they do.

23 Q. If we can pull that up, please.

24 They talk about three general theories have emerged to
25 understand the HCV-induced transformation process. Do you see

1 that?

2 A. Yes, I do.

3 Q. The third says, Permanent B-cell damage, for example,
4 mutation of tumor suppressor genes caused by transiently
5 intracellular virus, the so-called hit-and-run theory. Do you
6 see that?

7 A. Yes, I do.

8 Q. And so can you please explain to the jury what the authors
9 are referring to there?

10 A. What they are saying is that HCV is capable of causing
11 accidents or mutations within that -- the cell in which it
12 lives, i.e., B lymphocyte in this case -- it will cause the
13 accident, and that the mutation at that point, it leaves or can
14 leave but the accident is still there.

15 The only thing that I would differ a bit on this last
16 statement is he is talking about a certain kind of tumor
17 suppressor genes. In fact, we have found that these mutations
18 can occur all over. It doesn't have to be just in those genes.

19 Q. And now, if we turn to page 173, do they also include a
20 diagram, the third diagram that explains this hit-and-run
21 theory?

22 A. Yes, they did.

23 Q. And I don't need you to walk through, but does this show,
24 consistent with what you explained to the jury, that the
25 hepatitis C can cause the DNA damage, hit-and-run, and then

1 leave the cell but leave that DNA damage behind?

2 **A.** That's exactly what it shows; drawing much more nicely
3 than my own, but there it is.

4 **Q.** Okay. So if we can please turn to -- did you -- in fact,
5 were you part of a group that published on this as well?

6 **A.** Yes, I was.

7 **MR. STEKLOFF:** Can we please publish Exhibit 1343,
8 Your Honor?

9 **MS. MOORE:** No objection.

10 **THE COURT:** Go ahead.

11 **BY MR. STEKLOFF**

12 **Q.** We see here that this article is called Hepatitis C Virus
13 Induces a Mutator Phenotype, Enhanced Mutations of
14 Immunoglobulin and Proto-oncogenes, correct?

15 **A.** That's correct.

16 **Q.** And Dr. Machida is the lead author, but do we see there
17 that you are also part of the authors who published this
18 article?

19 **A.** Yes.

20 **Q.** And this is dated March 23, 2004; is that correct?

21 **A.** Correct.

22 **Q.** And if we look at the summary of what you and your
23 colleagues published, did it explain -- well, let's just read
24 this for the jury. It says -- would you like to read it?

25 **A.** Sure.

1 Q. Okay.

2 A. We demonstrated here that acute and chronic HCV infection
3 caused a five to tenfold increase in mutation frequency in
4 immunoglobulin heavy chain, BCL6, p53, and Beta-catenin genes
5 of in vitro HCV-infected B-cell lines and HCV-associated
6 peripheral blood mononuclear cells, lymphomas and HCCs.

7 So we looked at cell lines. We looked at living human
8 living peripheral blood B-cells. We looked at human lymphomas,
9 and we looked at human hepatic cancer cells, hepatocellular
10 cancer cells.

11 Q. And then if we look at the bottom of this same paragraph,
12 did you and your colleagues explain the following: These
13 results indicate that hepatitis C virus induces a mutator
14 phenotype and may transform cells by a hit-and-run mechanism.
15 This finding provides a mechanism of oncogenesis for an RNA
16 virus?

17 A. Yes, that's what it says; and that's what the data
18 indicates, both then and subsequent to that.

19 Q. Can you just explain -- you have talked about it, but can
20 you just explain to the jury what that -- what those two
21 sentences mean?

22 A. It basically means that HCV is unusual and difficult in
23 the sense that it has the ability to get into our DNA and cause
24 all kinds of accidents, not any one specific. Some are more
25 common. Some are less common. But it can cause accidents all

1 over the place in our DNA. It is a very difficult virus.

2 Q. Now, are there other articles that also explain this
3 hit-and-run mechanism?

4 A. Yes, there are.

5 Q. We chose just one that you were involved in and then one
6 that you weren't involved in; is that fair?

7 A. Yes. I think it is important to note that the field
8 always moves forward. You're always learning more. So the
9 first publication was in 2004, but that has consistently been
10 shown. This is now very commonly understood by oncologists
11 such as myself.

12 Q. Now, Dr. Levine, have you also -- if we can switch back to
13 the PowerPoint.

14 Have you also been involved in research regarding the
15 latency or how long it takes for lymphoma to develop from
16 hepatitis C?

17 A. Yes, I have.

18 Q. And so -- actually we have one more study, I'm sorry,
19 which is Exhibit 1598.

20 MR. STEKLOFF: If I can publish that to the jury,
21 Your Honor.

22 MS. MOORE: No objection.

23 THE COURT: Go ahead.

24 BY MR. STEKLOFF

25 Q. And we see here the title of this article is Hepatitis C

1 Virus Infections in Patients with B-cell non-Hodgkin's
2 Lymphoma; is that correct?

3 A. Yes.

4 Q. And, again, with Mr. Hardeman we are talking about a
5 B-cell non-Hodgkin's lymphoma; correct?

6 A. Correct.

7 Q. This is by Dr. Zuckerman. And then I think we see that
8 you were also part of this research in 1997, correct?

9 A. Right.

10 Q. And can you briefly explain to the jury how you,
11 Dr. Zuckerman and the other doctors conducted this study, not
12 with too much detail, but what you did?

13 A. We were interested in the potential relationship between
14 hepatitis C and B-cell lymphomas because in our large group of
15 patients with lymphoma at the county hospital in L.A., we were
16 seeing quite a few patients who were infected by hep C.

17 We, therefore, did a study and looked at about 120 of our
18 patients who had B-cell lymphoma from the county, we looked at
19 about 150 patients who had other kinds of cancers of the blood
20 system but not B-cell lymphoma, and then we looked at about 130
21 patients from our same clinics who had no cancer at all but
22 they were patients at the county hospital.

23 We did hepatitis C antibody tests on all of them and HCV
24 RNA. We looked at the RNA, the active virus in the blood, of
25 all of them. And it turned out that the patients with B-cell

1 lymphoma were highly more likely -- 22 percent of them had been
2 infected with hepatitis C versus only about 5 percent of the
3 other two groups. This was highly significant and was our
4 first little hint that perhaps hepatitis C was related in some
5 sense to the development of B-cell lymphoma.

6 We went back to the patients who were hepatitis C
7 infected, asked when they might have been infected or when they
8 might have been exposed by hepatitis C, and it turned out that
9 the average, the median time, between the exposure to
10 hepatitis C and the B-cell lymphoma was 15 years. Again, long
11 time. But the range went up to 30 -- 35 or 36 years. So,
12 again, hepatitis C has a long latent period as it eventually
13 develops into B-cell lymphoma.

14 Q. And so just to call out a couple portions of the article.
15 First, did you explain at page 423 what you just said where it
16 talks about risk factors for hepatitis C infection?

17 A. Risks --

18 Q. Yes. So it says (reading):

19 "Risk factors for hepatitis C virus infection were
20 present in 15 patients (60 percent) with B-cell lymphoma
21 and occurred a median of 15 years before diagnosis of
22 lymphoma."

23 Correct?

24 A. Correct.

25 Q. And then if we go to the next portion of the results

1 section that we wanted to call out.

2 Did you explain -- you and your colleagues explain the
3 period during which patients were at risk for percutaneous
4 exposure to HCV preceded the diagnosis of B-cell lymphoma by a
5 median of 15 years, range 5 to 35 years?

6 **A.** Correct.

7 **Q.** And if we can take that down.

8 With respect to Mr. Hardeman and that 5- to 35-year range
9 with a median of 15, what does that tell -- what would you like
10 to tell the jury about that?

11 **A.** I think that Mr. Hardeman's case was quite common. That's
12 exactly what we expect, a very, very long latent period during
13 which the accident, the cell with the mutation in it is
14 starting to divide and the person's immune system is trying to
15 keep it in check; but at a certain point, perhaps when the
16 immune system weakens a little bit because the person is older,
17 at a certain point it shifts and the immune system weakens, the
18 lymphoma is allowed to express itself, to divide and divide, it
19 pops above the line, and the patient is diagnosed with a
20 clinical lymphoma. So I think that his case is quite
21 consistent with the usual situation in that regard.

22 **Q.** When you say "usual," usual with respect to a hepatitis C
23 diffuse large B-cell lymphoma?

24 **A.** Consistent with the fact that it's very -- it's expected
25 that the time between infection by hepatitis C and the

development of B-cell lymphoma will be decade or decades long.

Q. Now, you mentioned earlier that you've reviewed Dr. Ye's testimony; correct?

A. That's correct.

Q. And are you aware that Dr. Ye said Mr. Hardeman was cured in 2006 of his hepatitis C?

A. Yes, he said that.

Q. Okay. And so I think you touched on this briefly but since we're talking about hepatitis C, is Dr. Ye's use of the word "cured" consistent or inconsistent with your opinions?

A. I think we're both saying the same thing. I'm very respectful of Dr. Ye. He did a beautiful job and he treated Mr. Hardeman beautifully. He used the word "cure," but in some way he knew -- I'm sorry.

He used the word "cure." He gave the patient some very specific information. He said to the patient --

MS. MOORE: Objection, Your Honor.

I'm sorry, Dr. Levine.

Again, speculation and hearsay.

THE COURT: Overruled.

BY MR. STEKLOFF:

Q. You can continue.

A. There is specific data in the literature in Mr. Hardeman's records in which Dr. Ye discusses what he discussed with Mr. Hardeman related to his lymphoma. He says that he

1 discussed with Mr. Hardeman the fact that he had chronic
2 infection by hepatitis C and, therefore, he was going to have
3 to watch him very carefully as it relates to his liver tests.

4 He also told Mr. Hardeman that he had been infected by
5 hepatitis B and because of that, he wanted to avoid the
6 reactivation of hepatitis B using a drug called lamivudine.
7 This would be done simply because use of chemotherapy itself
8 will weaken the immune system; and if there is virus, germs,
9 hidden occult inside cells, inside a liver cell or inside a
10 B-cell, the use of chemotherapy will decrease the immune system
11 of the patient and allow the hepatitis B to reactivate itself,
12 to show itself again as hepatitis and allow the hepatitis C
13 virus to get active again and show itself as real hepatitis.

14 He was very specific in discussing that with Mr. Hardeman,
15 and he wrote it into his note that he had discussed that. So
16 his action indicated that he wanted to prevent --

17 **MS. MOORE:** Objection. Objection, Your Honor.

18 **THE WITNESS:** -- reactivation.

19 **MS. MOORE:** Dr. Levine, I'm sorry.

20 It calls for speculation.

21 **THE COURT:** Overruled.

22 **BY MR. STEKLOFF:**

23 **Q.** And, Dr. Levine, we'll come back through some slides, but
24 you mentioned a medical record. Is this the medical record,
25 1023 at page 940, that you are referencing?

1 **A.** Yes.

2 **Q.** And so it says at the top (reading):

3 "We specific" --

4 This is Dr. Ye's record from February 19th, 2015; correct.

5 **A.** Correct.

6 **Q.** And it says (reading):

7 "We specifically discussed two additional concerns in
8 his case."

9 This is what Dr. Ye was saying he discussed with
10 Mr. Hardeman; correct?

11 **A.** Correct.

12 **Q.** And the first involved the impact of hepatitis C
13 cirrhosis; correct?

14 **A.** Correct.

15 **Q.** But then explain just -- you just explained it, but just
16 tell the jury what this says in the second bullet and how
17 that's consistent with what you just explained.

18 **A.** So he says that he discussed these concerns with
19 Mr. Hardeman, hepatitis B and C reactivation from rituximab.
20 Some of the drugs -- one of the drugs that we will use to treat
21 Mr. Hardeman is rituximab, and that definitely weakens the
22 immune system; and so he's saying to Mr. Hardeman that because
23 of the chemotherapy that we are going to start, the hepatitis B
24 could reactivate itself and the hepatitis C hidden could
25 reactivate itself.

1 He says (reading):

2 "We will monitor both diseases through the treatment.

3 I recommend prophylactic lamivudine 150 grams daily."

4 What that means is lamivudine is a drug to try to keep the
5 hepatitis B from reactivating itself, and he starts that drug
6 in Mr. Hardeman.

7 **Q.** And if Dr. Weisenburger last week suggested to the jury
8 that after that antiviral therapy hepatitis B and hepatitis C
9 had been completely eliminated from Mr. Hardeman's bloodstream,
10 do you agree with that?

11 **A.** I do not agree with it and I don't believe -- I did not
12 agree with it at all.

13 **MR. STEKLOFF:** And I'm sorry. This may have not been
14 published. So may I published this to the jury if it wasn't
15 published?

16 **MS. MOORE:** No objection, Your Honor.

17 **THE COURT:** Go ahead.

18 **BY MR. STEKLOFF:**

19 **Q.** Okay. So sorry about that.

20 We don't need to belabor this record. Do you see here
21 where it says, "We specifically discussed two additional
22 concerns in his case," and then you were reading from that
23 bottom bullet (reading):

24 "Hepatitis Bc reactivation from rituximab. Will
25 monitor both diseases through the treatment. I

1 recommended prophylactic lamivudine, 150 milligrams once
2 daily."

3 **A.** That's what he said, and he discussed it with the patient.

4 **MR. STEKLOFF:** And, Your Honor, I would move into --
5 move for the admission of page 940 and then the two other prior
6 medical records also, page 114 and 192, of Mr. Hardeman's
7 medical records.

8 **MS. MOORE:** Objection, Your Honor, just with the
9 admission through an expert. I think she can testify that she
10 relied it, but admission into evidence is not proper. I'd like
11 a sidebar on that later.

12 **THE COURT:** Sure.

13 **MS. MOORE:** Thank you.

14 **MR. STEKLOFF:** Okay.

15 **Q.** Now, Dr. Levine, the jury -- I just want to talk -- since
16 you've been talking about this antiviral therapy, the jury
17 heard, and I think it's not in dispute, that Mr. Hardeman did
18 not have a positive hepatitis C test after 2006; correct?

19 **A.** That is correct.

20 **Q.** He had something called a sustained virological response
21 between 2006 and 2015; correct?

22 **A.** Correct.

23 **Q.** Does that in any way change your opinions about the role
24 hepatitis C most likely played in Mr. Hardeman's non-Hodgkin's
25 lymphoma?

1 **A.** No, for two reasons. First, if he had had that active
2 hepatitis C for one year or for 39 years, at any one moment he
3 would have had the opportunity for an error. He did have a
4 mutation in his cell and, therefore, he didn't need the virus
5 anymore. It was already -- the event had already occurred.
6 That would be one concept -- or fact.

7 The other fact is that sustained virologic remission
8 basically means that we cannot find evidence of the virus in
9 the blood using the standard techniques that we have, and that
10 is defined starting at six months after the end of
11 antiretroviral -- I'm sorry -- antiviral therapy.

12 We -- on the other hand, we do know -- ask me again. I'm
13 sorry. I lost my train.

14 **Q.** You were explaining there were two reasons why --

15 **A.** Oh.

16 **Q.** -- his sustained virological response doesn't change your
17 opinions.

18 **A.** Right. The other fact is that sustained virologic
19 response means that we don't see the virus in the blood using
20 our standard techniques, but there are many studies published
21 in the peer-reviewed literature that show very carefully that
22 even though the virus is not visible by our techniques in the
23 blood, if one does very careful ultrasensitive studies in the
24 blood, you can often find it. If you look at the liver cells,
25 it is there. If you look at the B lymphocytes, it is there.

1 And that's now called occult infection. It's there at a
2 lower level. It's a real clinical benefit. No question, if
3 you reduce the amount of HCV, the patient feels better. It's
4 something that we should do, no question; but if that accident
5 has already happened, it doesn't really matter whether the
6 virus is still there or not.

7 Q. And so, Doctor, we're not going to walk through them, but
8 Dr. Weisenburger showed the jury last week a series of articles
9 that he used -- that he -- it was his opinion, based on those
10 articles, that Mr. Hardeman would have had little to no risk
11 for diffuse large B-cell lymphoma because of the sustained
12 virological response. Do you recall reviewing that testimony?

13 A. I do.

14 Q. Have you reviewed all those articles?

15 A. I have.

16 Q. And do any of those articles change the opinions that you
17 have offered here today about the possible role of hepatitis C
18 in Mr. Hardeman's cancer?

19 A. They do not alter my opinion at all. The accident had
20 39 years to occur.

21 Q. Okay. So let's turn now --

22 THE COURT: Maybe now would be a good time for our
23 morning break?

24 MR. STEKLOFF: I think that's perfect, Your Honor. I
25 think I have ten minutes left, but I think this is a good time.

LEVINE - DIRECT / STEKLOFF

1 **THE COURT:** Okay. Sounds good.

2 Why don't we take our morning break. We'll be back in at
3 about 10 after the hour. Thank you.

4 **THE CLERK:** All rise.

5 (Proceedings were heard out of the presence of the jury:)

6 **THE COURT:** Thank you. You can step down, Dr. Levine.

7 **THE WITNESS:** Thank you.

8 **THE CLERK:** Please be seated.

9 **THE COURT:** Be back in about ten minutes.

10 (Recess taken at 9:59 a.m.)

11 (Proceedings resumed at 10:14 a.m.)

12 **THE COURT:** Okay. Go ahead and bring them in.

13 (Proceedings were heard in the presence of the jury:)

14 **THE CLERK:** Please be seated.

15 **THE COURT:** Okay. You can resume.

16 **MR. STEKLOFF:** Thank you, Your Honor.

17 **Q.** Good morning, Dr. Levine.

18 **A.** Good morning.

19 **Q.** And so when we finished off, we were going to turn to
20 hepatitis B. And can you just briefly explain to the jury what
21 hepatitis B is?

22 **A.** Yes. Hepatitis B is actually an entirely different virus.
23 It is a DNA virus. It also infects B lymphocytes and liver
24 cells.

25 The interesting thing about hepatitis B, one of them, is

1 that it's very different than C in the fact that most people
2 who get hepatitis B, the immune system can clear it and it's
3 the minority that will go on with chronic hepatitis. So it's
4 just the opposite in terms of chronic infection as far as the
5 percentage of people with chronic infection. Very, very common
6 in hepatitis C, not that common in hepatitis B.

7 But it certainly can lead to liver cirrhosis over time.
8 Hepatitis B can cause the same kinds of accidents or genetic
9 errors, mutations, in the DNA just as I was saying about
10 hepatitis C; and hepatitis B has also been proven to be a cause
11 of non-Hodgkin's lymphoma and specifically diffuse large B-cell
12 lymphoma.

13 **Q.** And so this is a medical record, again, from Dr. Ye dated
14 February 19th, 2015. And what does this medical record show?

15 **A.** It shows that he has been infected with hepatitis B in the
16 past. So he does not have active hepatitis B surface antigen
17 is what it's called, and that would be a sign of active
18 infection. Just like in hep C, the RNA would be a sign of
19 active. Here he does not have evidence of active hepatitis B
20 infection, but he has had it in the past because he has
21 antibody to what is called hepatitis B core. So he has been
22 infected in the past.

23 **MR. STEKLOFF:** And, Your Honor, I would move for the
24 admission of this exhibit as well, Exhibit 1023 at page 940.

25 **MS. MOORE:** Your Honor, same objection.

1 **THE COURT:** Okay. We'll discuss it at sidebar.

2 **BY MR. STEKLOFF:**

3 **Q.** Now, Dr. Levine, we've heard that Mr. Hardeman was, again,
4 most likely exposed to hepatitis B in 1966 as well; correct?

5 **A.** Correct.

6 **Q.** Now, are you able, based on the fact that he had this
7 positive test for the antibody in 2015, to tell how long he had
8 active hepatitis B?

9 **A.** No, I can't tell how long he might have had active
10 hepatitis B.

11 **Q.** So as compared to hepatitis C, is that why you are -- you
12 said it was the second-most likely cause instead of the most
13 likely cause?

14 **A.** Yes. I felt the most likely was hepatitis C. He had
15 active infection for 39 whole years. I just don't have enough
16 information from the medical records to know the duration of
17 what might have happened with the hepatitis B, and that's why I
18 put it second on my list.

19 **Q.** And here we can see in this medical record from Dr. Ye
20 that when he was tested in 2015, Mr. Hardeman was positive for
21 this hepatitis B core antibody; correct?

22 **A.** That is correct.

23 **Q.** And is there literature that discusses the risk of
24 developing B-cell lymphoma if you are positive for that core
25 antibody?

1 **A.** Yes, there is.

2 **Q.** And so -- well, this record we have discussed before;
3 correct?

4 **A.** Yes, we have.

5 **Q.** So then we'll move past that.

6 Is the Wang paper from 2007 one of the articles that
7 discusses that increased risk associated with being positive
8 for that core antibody?

9 **A.** Yes. He's looking at patients with B-cell lymphoma, and
10 on the bottom in yellow they have antibody to hepatitis C to
11 the core portion of the hepatitis B virus, and that is the same
12 status as Mr. Hardeman.

13 **Q.** And just to be clear so we're not confusing hepatitis C or
14 hepatitis B, this article is about hepatitis B; correct?

15 **A.** This is B and "c" here means core. So this is the core
16 part of the hepatitis B virus. And the antibody positive means
17 that that patient was infected with hepatitis B at sometime in
18 the past, and this particular highlighted area shows that
19 people who developed B-cell lymphoma were statistically more
20 likely to be positive for that hepatitis B core component.

21 **Q.** And this is Table 4. If we look at Table 5, does the
22 highlighted portion also apply to the tests for hepatitis B
23 that Mr. Hardeman had?

24 **A.** Yes. So the anti -- he did not have an antibody to
25 hepatitis B surface. He did have antibody to core, and that

1 is -- if he had -- if he had antibody to surface, that would
2 mean he had been vaccinated. Here he had real infection. He
3 had infection --

4 Q. And so --

5 A. -- in the past.

6 Q. -- at the bottom here there's a quote from the article
7 that says (reading):

8 "The same subgroup showed a significantly higher rate
9 of positive anti-hepatitis B core status and negative
10 anti-hepatitis B surface status compared with the control
11 group (31 percent versus 17 percent)."

12 Statistically significant, correct?

13 A. Correct.

14 Q. So how does this article and the increased risk associated
15 with it -- can you explain how that impacts your opinions about
16 the role hepatitis B may have played?

17 A. It says to me that it is certainly possible that
18 Mr. Hardeman's B-cell lymphoma and diffuse large B-cell
19 lymphoma was associated with hepatitis B, but I have no further
20 information about how long he might have been infected or
21 whether he might have been chronically infected.

22 Q. And to be clear, are there other studies about hepatitis B
23 that show no or little increased risk if you have this positive
24 core antibody?

25 A. Yes, there are studies that show the opposite as well.

1 Q. And did you consider that in forming your opinions?

2 A. I did. And, again, that was why I chose to put this as a
3 second possibility, not as the first possibility.

4 Q. But with respect to both hepatitis C and hepatitis B,
5 based on everything that you have now told the jury, do you
6 think that Dr. Weisenburger appropriately ruled out, what he
7 claimed he ruled out, those possible causes of Mr. Hardeman's
8 cancer?

9 A. I don't believe that he ruled out those causes at all.
10 The data is very, very strong in my own mind that those are the
11 significant factors in this case.

12 Q. Okay. So I just briefly want to touch on two other things
13 about Mr. Hardeman the jury has heard about. The first is that
14 when he was diagnosed with his non-Hodgkin's lymphoma in 2015,
15 he was 66 years old; is that right?

16 A. Yes.

17 Q. Explain to the jury how, if at all, that impacts your
18 opinions.

19 A. Older age is a risk factor for many, many kinds of cancer,
20 including lymphoma; and as I said earlier, one of the reasons
21 would be the weakening of the immune system as one ages.

22 Risk factor doesn't mean a causative factor. Getting old
23 doesn't cause cancer. It's simply associated with it. We see
24 patients with cancer who are older as opposed to young people.

25 Q. But if Mr. Hardeman had any of these DNA mutations from

1 hepatitis C or hepatitis B, what would have happened to his
2 immune system to fight those off as he became older?

3 **A.** As he became older and his defense or immune system got
4 weaker just because of age, he would be less and less able to
5 keep that mutation in check, to keep that beginning of
6 malignancy in check. He did not get the lymphoma when he was
7 20 or 30 or 40. He got it when he was 66. His immune system
8 would have been weakened at that time just by his age.

9 **Q.** The jury has also heard a little bit about -- from
10 Dr. Weisenburger about Mr. Hardeman's weight. Do you recall
11 that?

12 **A.** Yes, I do.

13 **Q.** And what, if any, role does Mr. Hardeman's weight play
14 into your opinions?

15 **A.** Very little. I certainly understand that extreme obesity
16 is associated with diffuse large B-cell lymphoma. Obesity in
17 young people has been associated with eventual development of
18 diffuse large B-cell lymphoma.

19 I don't, again, believe that obesity causes cancer, but
20 the fat cells release all kinds of chemicals and the chemicals
21 from the fat cells can act as growth factors for some of these
22 kinds of cancers. So there may be an indirect cause, but the
23 relationship -- certainly there is a relationship. I looked at
24 it. I did not take it as a major significant factor at all.

25 **Q.** And is that based on your review of Mr. Hardeman's weight

1 in the medical records?

2 **A.** That's based on several things. Number one, his weight in
3 the medical records. He was not exceedingly obese; i.e., a BMI
4 of 40 or greater. And also because he was not ever really
5 grossly obese. It was something that I looked at, but with the
6 other factors that were so prominent, this had very little
7 meaning to me in terms of his lymphoma.

8 **Q.** Now, did you prepare a slide that summarizes your opinions
9 for the jury?

10 **A.** Yes, I did.

11 **Q.** And can you please walk through -- you've discussed all
12 this, but can you please walk through your summary of your
13 opinions that you've offered today?

14 **A.** Certainly.

15 First, the cause of most diffuse large B-cell lymphoma is
16 unknown, it's iatrogenic, and we can't tell -- or idiopathic.
17 I'm sorry. Idiopathic. We can't tell whether a given case
18 under the microscope is caused by hepatitis C or Roundup or
19 anything. You can't tell, and so that always has to be
20 considered if you're looking at the potential cause of diffuse
21 large B-cell lymphoma in somebody.

22 My second point is that there is no medical evidence that
23 Roundup or glyphosate caused or contributed to Mr. Hardeman's
24 non-Hodgkin's lymphoma, specifically diffuse large B-cell
25 lymphoma.

1 My third conclusion or summary is that hepatitis C, an
2 active infection for 39 years before it was treated, was the
3 most likely cause or contributing factor to Mr. Hardeman's
4 diffuse large B-cell lymphoma. The virus is capable of causing
5 mutations in the DNA. Mr. Hardeman had DNA changes, mutations.
6 The long period between his infection and finally treating it
7 is very much consistent with what we know in the literature.

8 Once he had that mutation, it didn't matter at all if his
9 virus had been completely eradicated or not. The error was
10 there.

11 I also believe that the hepatitis B was the most likely
12 secondary factor simply because it's been shown to do that. It
13 also can cause mutations in the DNA of B cells, B lymphocytes,
14 just like hepatitis C. I don't know how long Mr. Hardeman had
15 active hepatitis B and, therefore, because I did not have more
16 information, I left that as my secondary significant cause for
17 this lymphoma.

18 **Q.** And you've described before what you mean by reasonable
19 degree of medical certainty. Are all these opinions offered to
20 a reasonable degree of medical certainty?

21 **A.** Yes, they are. As a clinical physician, I can't be swayed
22 by a little thing here or a little thing there. I need real
23 data, and patients depend upon me to know real data and to have
24 judged it carefully and to have discussed it with many
25 colleagues and thought about it for a long time because the

1 treatment that I'm going to do depends on these kinds of
2 things.

3 I don't take that lightly. I don't take that lightly in
4 any sense at all. So when I say that this is the most
5 significant factor, it's based on my opinions as a physician,
6 as a clinician doing what I would do to take care of that
7 patient as Dr. Ye did.

8 Q. And if Mr. Hardeman had been your patient and had asked
9 you about any of these topics, would you have told him exactly
10 what you told the jury today?

11 A. Absolutely.

12 MR. STEKLOFF: Your Honor, I pass the witness.

13 THE COURT: Okay. Any cross-examination?

14 MS. MOORE: Yes, Your Honor.

15 CROSS-EXAMINATION

16 BY MS. MOORE:

17 Q. Good morning, Dr. Levine.

18 A. Good morning.

19 Q. Let me get all my things up here. And I've got some more
20 binders to have in front of you.

21 A. Okay.

22 MS. WAGSTAFF: May I approach?

23 THE COURT: Of course.

24 (Pause in proceedings.)

25 \\\

1 **BY MS. MOORE:**

2 **Q.** Dr. Levine, I want to start off with just some general
3 questions about you were asked several things about your
4 practice as an oncologist. And when you're practicing as an
5 oncologist, do you agree that when you're trying to determine
6 the cause of cancer, that it would be important for you to
7 consider all of the data before reaching a conclusion?

8 **A.** Without any question at all.

9 **Q.** And would you agree that it would be improper to ignore
10 data when you're trying to determine the cause of someone's
11 cancer?

12 **A.** I agree.

13 **Q.** And do you agree that sometimes there's more than one
14 cause of someone's cancer?

15 **A.** As in Mr. Hardeman, hepatitis C and possibly B.

16 **Q.** In fact, I heard you tell the jury today that in your
17 opinion, both hepatitis C and hepatitis B were causes of
18 Mr. Hardeman's non-Hodgkin's lymphoma; is that correct?

19 **A.** I said that my primary belief was that hepatitis C was the
20 primary significant contributing factor to his lymphoma.
21 Hepatitis B could have been a secondary factor.

22 **Q.** Now, in this case when you were reaching your conclusion
23 about the cause of Mr. Hardeman's non-Hodgkin's lymphoma, is it
24 true that you're not here to give any opinions about the animal
25 studies that looked at Roundup and glyphosate?

1 **A.** Correct.

2 **Q.** And you're not here to give any opinions regarding the
3 mechanistic data or, as the jury has heard, the cell studies
4 regarding Roundup and glyphosate?

5 **A.** That is correct.

6 **Q.** And you're not here to give an opinion as to whether
7 Roundup is genotoxic; correct?

8 **A.** That is correct.

9 **Q.** And for the epidemiology, you are relying solely on
10 Dr. Mucci's testimony from last Friday that I understand you've
11 read; is that correct?

12 **A.** I have read it and I rely on it. I thought it was well
13 done.

14 **Q.** And you understood that Dr. Mucci's testimony was that
15 there was zero evidence that Roundup was a risk factor for
16 Mr. Hardeman?

17 **MR. STEKLOFF:** Object to form. Misstates the
18 testimony.

19 **THE COURT:** You can answer it. Go ahead.

20 **THE WITNESS:** Ask it again, please.

21 **BY MS. MOORE:**

22 **Q.** Sure. Based on Dr. Mucci -- did you understand
23 Dr. Mucci's testimony to be that there is zero or no evidence
24 that Roundup causes non-Hodgkin's lymphoma?

25 **A.** I believe that's true.

1 Q. And as such, you aren't giving any opinions to this jury
2 as to Mr. Hardeman's exposure to Roundup?

3 A. I am not.

4 Q. And your opinion as to what caused Mr. Hardeman's
5 non-Hodgkin's lymphoma would be the same whether Mr. Hardeman
6 used Roundup for 1 day or 26 years; correct?

7 A. Absolutely. I don't believe it caused lymphoma. It
8 doesn't matter if it's 1 day or 10 days.

9 Q. And the same would be true whether he used 1 gallon of
10 Roundup or almost 6,000 gallons? It wouldn't matter to you?

11 A. It doesn't matter to me.

12 Q. And, Dr. Levine, you didn't perform what the jury has
13 heard is the Bradford-Hill analysis; is that correct?

14 A. I did not perform that analysis.

15 Q. Dr. Levine, in your experience, you understand that
16 pesticide use or exposure to pesticides is considered to be a
17 known risk factor for non-Hodgkin's lymphoma; is that correct?

18 A. It's much too broad a statement. I can't answer that
19 question properly.

20 Q. Well, you're familiar with pesticides; right?

21 A. Somewhat.

22 Q. Okay. And that's fair. Let me back up.

23 I notice from your curriculum vitae that your specialty as
24 an oncologist is really focused in on HIV; is that fair?

25 A. HIV and other organisms. Basically it is a lymphoma as my

1 specialty.

2 Q. And your specialty has not been lymphoma that's caused by
3 pesticides; is that fair?

4 A. That is not my specialty.

5 Q. When you have a patient come into your office that has
6 non-Hodgkin's lymphoma, do you ask them about their pesticide
7 use?

8 A. I do not.

9 Q. Is it possible that all those cases that you referred to
10 earlier that you said, well, the cause is idiopathic or
11 unknown, that it actually could be from pesticide use, but you
12 don't know because you don't ask?

13 A. That's a total assumption. I can't answer that question.
14 I don't know.

15 Q. But without asking your patient about their pesticide use,
16 aren't you assuming that the cause is unknown?

17 A. No.

18 Q. Now, let's go back to pesticide use. Are you familiar
19 that certain pesticides are known to be risk factors for
20 non-Hodgkin's lymphoma?

21 A. Pesticides? Be specific. I really can't answer that.

22 Q. Okay. Are you familiar with the American Cancer Society?

23 A. In general.

24 Q. And is the American Cancer Society an organization that
25 you turn to in your work as an oncologist?

1 **A.** For what purpose?

2 **Q.** Well, the research that the American Cancer Society has
3 performed?

4 **A.** They don't perform research.

5 **Q.** For the information that the American Cancer Society
6 gathers?

7 **A.** Occasionally.

8 **Q.** And, in fact, in this case you relied upon information
9 from the American Cancer Society discussing non-Hodgkin's
10 lymphoma; correct?

11 **A.** I did.

12 **Q.** In fact, you listed that as your number one resource on
13 your materials list that you considered in forming your
14 opinions in this case; correct?

15 **A.** No, that is not correct.

16 **Q.** Do you recall, Dr. Levine, providing a list of the
17 materials that you reviewed in forming your opinions as to what
18 caused Mr. Hardeman's NHL?

19 **A.** I do.

20 **Q.** Okay.

21 **MS. MOORE:** And, Ms. Melen, can I have the Elmo,
22 please?

23 **Q.** Do you recall whether you listed the American Cancer
24 Society as one of those resources?

25 **A.** I'm sure I did.

1 Q. Okay. And would it be helpful if I showed you that
2 materials list?

3 A. Please do.

4 Q. Okay. I'll put that --

5 MS. MOORE: May I publish? I apologize.

6 MR. STEKLOFF: No objection.

7 THE COURT: Go ahead.

8 MS. MOORE: Thank you.

9 Q. Okay. And, Dr. Levine, do you see that the number one
10 listing you have there in the literature that you -- materials
11 you considered list for Hardeman is the American Cancer
12 Society?

13 A. That is because this is an alphabetic list here. American
14 and we go As, Bs, Cs. It's not the first in my priority. It
15 is alphabetized.

16 Q. And I'm not saying it was number one that you relied on.
17 I'm just saying it's on your list; right?

18 A. It's on my list definitely.

19 Q. Thank you.

20 And are you aware, then, that the American Cancer Society
21 provides a list, then, of non-Hodgkin's lymphoma risk factors?

22 MR. STEKLOFF: Objection. Hearsay, Your Honor.

23 THE COURT: Overruled.

24 THE WITNESS: Yes.

25 \\\

1 **BY MS. MOORE:**

2 **Q.** And you talked about a couple of those. You mentioned a
3 few minutes ago age and I know you mentioned infections, but
4 you didn't talk about on your direct exam pesticide exposure;
5 is that right?

6 **A.** That is correct.

7 **Q.** Okay. And do you recall whether the American Cancer
8 Society considers exposure to certain chemicals as a risk
9 factor for non-Hodgkin's lymphoma?

10 **A.** I do recall that, yes.

11 **Q.** Okay. And do you recall that the American Cancer Society
12 considers that chemicals, such as benzine and certain
13 herbicides and insecticides, weed and insect-killing substances
14 may be linked to an increased risk of non-Hodgkin's lymphoma?

15 **A.** Certain of these subjects may, yes.

16 **Q.** But in determining Mr. Hardeman's non-Hodgkin's lymphoma,
17 you didn't consider any pesticide use; correct?

18 **MR. STEKLOFF:** Object. Form. I mean, objection.
19 Misstates the testimony.

20 **THE COURT:** Overruled.

21 You can answer it if you --

22 **THE WITNESS:** Ask the question again, please.

23 **BY MS. MOORE:**

24 **Q.** Sure. In Mr. Hardeman's case, you didn't consider any
25 pesticide use or exposure to Mr. Hardeman in determining his

1 cause of non-Hodgkin's lymphoma; correct?

2 A. I did not.

3 Q. Okay. Now, you talked about some of the risk factors for
4 Mr. Hardeman, and I just want to make sure I understand. Risk
5 factor is not the same as cause; is that correct.

6 A. That is correct.

7 Q. In other words, just because you have a risk factor, that
8 doesn't mean that the risk factor will actually lead to the
9 development of non-Hodgkin's lymphoma; correct?

10 A. It means that the risk factor is associated with an
11 outcome but is not causing the outcome.

12 Q. Okay. Let me --

13 MS. MOORE: Your Honor, I'm going to bring the flip
14 chart up.

15 Oh. And I'm sorry, Ms. Melen. I don't need the Elmo for
16 this.

17 Let's see if I can get it up there in this maze.

18 Okay. And I just want -- and, Mr. Stekloff, I apologize.

19 MR. STEKLOFF: It's okay.

20 BY MS. MOORE:

21 Q. And can you see that, Dr. Levine?

22 A. Yes, I can.

23 Q. Now the question is whether you will be able to read my
24 handwriting.

25 So I'm going to write "Hardeman Risk Factors for NHL."

1 And let's work backwards from what you just testified about.

2 You mentioned age; is that right?

3 A. Correct.

4 Q. Okay. And you mentioned weight; is that right?

5 A. I did.

6 Q. And then you mentioned hepatitis B?

7 A. I did.

8 Q. And you mentioned hepatitis C; is that right?

9 A. Correct.

10 Q. Did I leave anything off?

11 A. Idiopathic.

12 Q. So idiopathic, that just means that we don't know what the
13 cause is; is that right?

14 A. That's correct.

15 Q. And your testimony today is that in your opinion, you know
16 what the cause is; right?

17 A. I can't exclude that this was idiopathic. If I have to
18 say what is the most significant contributing factor here, it
19 is clearly long-term hepatitis C active infection, but I can't
20 exclude idiopathic.

21 Q. Okay. So you want me to write "idiopathic" down here?

22 A. I do.

23 Q. So in your opinion, any of these three could be a cause;
24 is that right?

25 A. Yes.

1 Q. Okay.

2 A. Well, I don't know that idiopathic is a cause but, yes.

3 Q. All right. Exactly. By definition it's unknown; right?

4 A. Correct.

5 Q. All right. And would it be fair to say from your
6 testimony that you ruled out age as a cause in Mr. Hardeman's
7 non-Hodgkin's lymphoma?

8 A. Age was not a cause.

9 Q. So can I just scratch through that?

10 A. Sure. Well, actually, I would put a little -- not a
11 scratch-out because it allowed his immune system to be lowered
12 or weakened.

13 Q. Okay. But the fact of his age in itself did not cause his
14 non-Hodgkin's lymphoma?

15 A. Absolutely true, correct.

16 Q. All right. And I believe Dr. Weisenburger testified, and
17 I heard you say it this morning, about something called
18 causative risk factors. And age is not a causative risk
19 factor; right?

20 A. Correct.

21 Q. Okay. And that's what Dr. Weisenburger also testified,
22 that age is not a causative risk factor, and you agree with him
23 about that?

24 A. Yes, I do.

25 Q. Okay. So can I write "not causative"?

1 **A.** Fine.

2 **Q.** And I'm just going to do "RF" for risk factor. Okay?

3 **A.** Okay.

4 **Q.** All right. And then you also mentioned weight, and I
5 think what you said was you gave it very little; is that right?

6 **A.** I considered it but did not think this was a significant
7 factor in Mr. Hardeman's lymphoma.

8 **Q.** In fact, isn't it true you don't -- you agree with
9 Dr. Weisenburger, weight was not -- well, let me back up.

10 Do you agree that weight is not a causative risk factor in
11 this case?

12 **A.** I agree.

13 **Q.** All right. I'm going to mark through that. I know you'd
14 rather have an asterisk, but artist's difference; right? But
15 can I write "not causative risk factor" here (indicating)?

16 **A.** Correct.

17 **Q.** Okay. And so that really leaves on your board hepatitis B
18 and hepatitis C. I'm not going to -- we're going to talk about
19 idiopathic separate since it's not a cause; is that fair?

20 **A.** Yes. It depends on what the question will be but, yes, go
21 ahead.

22 **Q.** Okay. And then you're aware that Dr. Weisenburger, he
23 went through a similar process where he looked at, okay, what's
24 all the known risk factors for non-Hodgkin's lymphoma and then
25 what applies to Mr. Hardeman. And that's what you did here; is

1 that right?

2 **A.** In a sense.

3 **Q.** And I know that you were asked a question about
4 differential and that that was the method that Dr. Weisenburger
5 did. Isn't that essentially, Dr. Levine, looking at the known
6 risk factors and figuring out what applies to Mr. Hardeman's
7 case?

8 **A.** The nomenclature that's being used is not normally used.
9 A differential diagnosis is not used to define the etiology of
10 a disease, and that's not really what I use to define the
11 etiology of a disease, the cause of a disease.

12 **Q.** Okay. And that's fair because in medicine when you hear
13 the term "differential diagnosis," it's to figure out let's put
14 up every possible diagnosis on the board when someone comes in.
15 Let's say someone comes in with chest pain, and I know you're
16 not a cardiologist, but let's say someone comes in with chest
17 pain. You're going to put up every possible cause of that
18 chest pain and you're going to rule out the most
19 life-threatening first and work your way down to figure out is
20 it really a heart attack; is that fair?

21 **A.** If I'm trying to do a diagnosis, if I'm getting a
22 diagnosis, that's what I do.

23 **Q.** Okay. And that's what in the medicine world we call
24 differential diagnosis?

25 **A.** That's correct.

1 Q. And then in the legal world what you did was you went
2 through a process to figure out the cause of Mr. Hardeman's
3 NHL, and you did that by figuring out what are the known risk
4 factors that apply to Mr. Hardeman and which in your opinion
5 was the cause; is that fair?

6 A. I went through my knowledge base of the various causes of
7 non-Hodgkin's lymphoma. There was very strong evidence of a
8 chronic infection by hepatitis C. That was a major fact when I
9 was reading that case. It struck me in a big way.

10 Q. Okay. And my question really is about your methodology.

11 A. Uh-huh.

12 Q. And is it fair to say that you went through and you
13 thought, okay, here are the risk factors in your opinion that
14 apply to Mr. Hardeman, and then you decided which ones of those
15 was a cause of the NHL? Is that fair?

16 A. I looked at all of the factors that he had been exposed to
17 in his life and realized which ones were most significant in a
18 clinical sense, as Dr. Ye did as well.

19 Q. Okay. And as Dr. Weisenburger did; correct?

20 A. I can't answer that. He wasn't doing a diagnosis. I
21 don't know.

22 Q. Well, this is not a diagnosis; correct? The diagnosis in
23 this case is undisputed; right?

24 A. I think so.

25 Q. Okay.

1 **A.** Diffuse large B-cell.

2 **Q.** Right. Everyone agrees that Mr. Hardeman has diffuse
3 large B-cell lymphoma; right?

4 **A.** Correct.

5 **Q.** So we don't have to do a differential on the diagnosis;
6 right?

7 **A.** I did.

8 **Q.** Well, and you agree with the Kaiser doctors?

9 **A.** I do.

10 **Q.** Okay. So what we're trying to figure out is what the
11 cause is. And I understand you don't like the nomenclature
12 that Dr. Weisenburger used on differential, but the process is
13 what you went through was to look at what risk factors apply to
14 Mr. Hardeman and then which of those was most likely the cause?

15 **A.** I don't know the process by which Dr. Weisenburger made
16 his decision. I can't answer that. I don't know that.

17 **Q.** Okay. Well, I'll tell you that last week the jury heard
18 from Dr. Weisenburger, and he testified that the risk factors
19 that apply to Mr. Hardeman, he talked about age and weight.
20 And you-all are in agreement age is not a causative risk
21 factor; right?

22 **A.** Yes.

23 **Q.** And then he talked about weight, and he agreed with you.
24 He didn't think it was the cause in this case. He thought it
25 was a minor risk factor.

1 **A.** Correct.

2 **Q.** Okay. And he also had hepatitis B and hepatitis C. The
3 only thing he had up on his board that you don't is -- and I'm
4 going -- I've run out of space, but I'm going to write it
5 down -- well, I'm going to write it right here (indicating). I
6 think it will fit.

7 He had Roundup. And he had Roundup, which is a pesticide;
8 right?

9 **A.** I thought it was an herbicide.

10 **Q.** Do you know that herbicides are a type of pesticide?

11 **A.** No.

12 **Q.** And so he had Roundup. So you-all had the same risk
13 factors that apply to Mr. Hardeman, except you didn't put
14 Roundup; is that right?

15 **A.** I did not put Roundup.

16 **Q.** Okay. And, Dr. Levine, you're here today to testify as an
17 expert witness for Monsanto; correct?

18 **A.** Correct.

19 **Q.** Okay. And you understand that Roundup is Monsanto's
20 product?

21 **A.** Correct.

22 **Q.** And Monsanto is paying you to be here for your time?

23 **A.** Correct.

24 **Q.** All right. So let's go into your opinions on hepatitis C.
25 And I'm going to flip over.

1 And this was actually shown to the jury last week when
2 Dr. Weisenburger was on the stand, and I just want to make sure
3 that you agree with this. Because you reviewed Mr. Hardeman's
4 medical records?

5 **A.** Yes, I did.

6 **Q.** Okay. And you agree that Mr. Hardeman, he went through
7 what's been called antiviral therapy for his hepatitis C; is
8 that right?

9 **A.** That is correct, Interferon and Ribavirin.

10 **Q.** And that he had a rapid response? In other words, within
11 12 weeks of getting that treatment, his viral load went to
12 negative; is that correct?

13 **A.** Yes, similar to others.

14 **Q.** Okay. And so can I just check off that you agree with
15 that?

16 **A.** I agree.

17 **Q.** And then -- and I'm just going to write your name here.
18 I'll say "Dr. Levine."

19 Okay. And then do you agree that his doctors declared
20 Mr. Hardeman cured of his hep C in 2006?

21 **A.** I believe that we are discussing a matter of words.
22 Dr. Ye said that he was cured, but he treated him for
23 hepatitis B. He took him to risk by giving him a drug that
24 potentially has side effects, and he gave him that drug because
25 deep down he was very concerned. He gave him the drug to

1 prevent reactivation of hepatitis B. That's what his note said
2 and that's what he told Mr. Hardeman. I don't -- I would not
3 give a drug to a person if I did not believe they needed that
4 drug.

5 Q. Okay. And, Dr. Levine, several times in your testimony
6 today you've been talking about what you believe Dr. Ye did and
7 why he did it. Have you ever spoken to Dr. Ye?

8 A. I've never spoken to him. I read his words in the chart.
9 His words in the chart said he was concerned about hepatitis C
10 and he was concerned about hepatitis B. That's what he said
11 and that's what he told the patient and that's how he managed
12 and treated the patient.

13 Q. Okay. Well, let's actually look at the words.

14 MS. MOORE: And, Ms. Melen, can I have the Elmo again,
15 please?

16 Q. Because you testified earlier this morning that -- and I
17 wrote this down. Let me find it real quick.

18 (Pause in proceedings.)

19 BY MS. MOORE:

20 Q. You said that when Dr. Ye first saw Mr. Hardeman, they had
21 a conversation, and this was about him undergoing chemotherapy
22 for his non-Hodgkin's lymphoma. Do you recall that?

23 A. I do.

24 Q. Okay. And you said that Dr. Ye was going to start the
25 hepatitis B prophylactic. And that means he gave him a drug to

1 make sure the hepatitis B didn't come back; isn't that right?

2 A. If he had no hepatitis B in his body, it could not come
3 back.

4 Q. And, in fact, it did not come back; isn't that true?

5 A. That is correct. He got the drug.

6 Q. All right. And then -- now, he did not give him any drug
7 for hepatitis C; right?

8 A. That is correct.

9 Q. Okay. And when you go through chemotherapy, you agree
10 that that weakens your immune system?

11 A. Correct.

12 Q. And so your body is less likely to be able to fight off
13 infection on its own; is that right?

14 A. That is correct.

15 Q. Okay. And Dr. Ye knew that Mr. Hardeman had a history of
16 hepatitis C?

17 A. Correct.

18 Q. And so he monitored to see during chemotherapy if, in
19 fact, when he had a weakened immune system if the hepatitis C
20 would come back; is that right?

21 A. He monitored it, yes.

22 Q. And we know from his records that the hepatitis C never
23 came back. It was never reactivated during chemotherapy;
24 correct?

25 A. Correct.

1 Q. So --

2 A. That is the expectation.

3 Q. I'm sorry. Go ahead.

4 A. That's the expectation.

5 Q. Okay. And, in fact, the expectation was met --

6 A. No.

7 Q. -- that hep C did not come back?

8 A. No. You misunderstood me.

9 Q. Oh. I'm sorry.

10 A. We've actually published on this. Hepatitis -- we looked
11 at patients with non-Hodgkin's lymphoma who are hepatitis C
12 positive, and it turned out that only one patient out of 33 had
13 real reactivation of the hepatitis C, 45 percent of those
14 patients had no reactivation of hepatitis C at all and they
15 were all known to be HCV RNA positive. So, no, it is not
16 uniform that patients with hepatitis C will reactivate on
17 chemotherapy.

18 Q. But Mr. Hardeman was not HCV RNA positive.

19 A. He was HCV -- he was HCV RNA negative in the blood. That
20 doesn't mean that he was HCV cured in the body.

21 Q. Okay. And, Dr. Levine, when you say it doesn't mean he
22 was HCV cured in the body, that's not based on any kind of
23 tests or any evidence in this case; is that correct?

24 A. It is based on data in the medical literature where
25 patients with HCV infection in the past with SVR, sustained

1 virologic response, are then tested by looking at their
2 B lymphocytes and looking at their liver cells and looking at
3 their blood in more sensitive tests, and those patients have
4 been shown. But it doesn't really matter. All he needed was
5 one hepatitis C one time to give him the mutation.

6 Q. Okay. And what you were just talking about is a
7 hypothetical situation. That's not what the data or the
8 evidence in this case shows with respect to Mr. Hardeman.

9 A. I don't know what you mean. It shows that he did not
10 reactivate. I was saying that doesn't mean that he doesn't
11 have hepatitis C in his body.

12 Q. Okay. You agree that from 2006 to the present, he has not
13 had active hepatitis C; correct?

14 A. Not in the blood by these standard tests, correct.

15 Q. And when you say "HCV cured in the body," that's based on
16 speculation in Mr. Hardeman's case; correct?

17 A. It's based on data in the literature. Those fancy special
18 sophisticated tests, research tests, were not done in
19 Mr. Hardeman nor would I expect them to be done.

20 Q. Okay. That's not something you do in your practice as an
21 oncologist; correct?

22 A. No. Dr. Ye --

23 Q. That's something -- I'm sorry. Go ahead.

24 A. Sorry. No.

25 Q. That's something that's done in a laboratory when people

1 are doing research?

2 **A.** It's something that's done in a laboratory when people are
3 trying to find the truth of a situation.

4 **Q.** Okay. But in this case -- and I just want to focus on the
5 facts of this case -- the facts of this case is that as of
6 2006, Mr. Hardeman no longer had active hepatitis C in his
7 blood; correct?

8 **A.** He did not. He didn't need it to get the lymphoma.

9 **Q.** Okay. I understand that. I just want to go through the
10 facts. I understand what your opinion is.

11 So as of 2006, you agree that Mr. Hardeman no longer had
12 active hepatitis C in his blood?

13 **A.** Yes, using standard tests.

14 **Q.** Okay. And what you're talking about in the literature are
15 some highly sensitive tests that, even in your practice as an
16 oncologist, you wouldn't order; correct?

17 **A.** They're not done for clinical tests. They're done to find
18 the truth of a given situation.

19 **Q.** And so as you sit here in this courtroom today, when you
20 say he may have hepatitis C in his body, you don't actually
21 know that?

22 **A.** That's absolutely true.

23 **Q.** All right. So do you agree, then, that when he underwent
24 chemotherapy, that the hepatitis did not come back?

25 **A.** It did not reactivate during chemo. That has been

1 described well in the past.

2 Q. Should I put in parentheses "reactivate" here then?

3 A. Yes.

4 Q. Okay. And then doing that, can I check off that you agree
5 with that?

6 A. Yes.

7 Q. All right. And do you agree, then, that he was cured of
8 the hep C in 2006?

9 A. I don't know if he was cured of it. I know he was
10 infected by hepatitis. Are you talking about B or C? I'm
11 sorry.

12 Q. C.

13 A. Okay. Repeat the question. I'm sorry.

14 Q. Sure. Sure.

15 Do you agree that in 2006, he was declared cured of
16 hepatitis C?

17 A. His doctors used the word "cured." I don't agree that I
18 believe he was.

19 Q. So you disagree with his doctors at Kaiser?

20 A. They used the word "cure." They treated him despite the
21 fact that they used the word "cure." So in a functional way,
22 they were concerned about his hepatitis C and they were
23 concerned about his hepatitis B.

24 Q. Okay. Well, hold on. When you say they treated him
25 despite him being cured, that's actually not accurate; right?

1 I mean, they never -- when you say "they," are you talking
2 about Dr. Ye?

3 **A.** Yes.

4 **Q.** Dr. Ye didn't provide any treatment for hepatitis C;
5 correct?

6 **A.** He provided follow-up and careful follow-up of his liver
7 function studies during the chemotherapy.

8 **Q.** And, in fact, those liver function studies -- and this is
9 actually what I wanted to show you. And this is -- actually, I
10 think I might be able to do this.

11 **MS. MOORE:** Mr. Wolfe, can you pull up Exhibit 45,
12 please?

13 Okay. And this is from --

14 I'm sorry, Your Honor. It's already in evidence.

15 So any objection to publishing?

16 **MR. STEKLOFF:** No, Your Honor.

17 **MS. MOORE:** Okay. I apologize, Your Honor.

18 If we could -- if you could highlight the date here,
19 Mr. Wolfe, at the top right corner.

20 **Q.** And do you need a copy, Dr. Levine? It's on your screen.

21 **A.** No. I have it.

22 **Q.** Okay. Good.

23 So this is from February 19th, 2015. And this is a visit
24 that Mr. Hardeman had with Dr. Ye; is that correct?

25 **A.** Correct.

1 Q. Okay. And if we could turn to the next page and,
2 Mr. Wolfe, if you could highlight --

3 Dr. Levine, do you see where it says "Liver cirrhosis
4 documented by sonogram" and then "Liver reserve excellent"?

5 A. Yes.

6 Q. And this is around the time of Mr. Hardeman's diagnosis of
7 non-Hodgkin's lymphoma?

8 A. That's correct.

9 Q. Okay. And this was actually the same office visit that
10 you highlighted on your direct, and I just wanted to point out
11 I didn't recall you highlighting that his liver reserve was
12 excellent around the time of his diagnosis.

13 A. Yes, it is. It's fine.

14 Q. Okay. And that's an important fact; correct?

15 A. Well, he has cirrhosis and he's making it through. He's
16 not -- his liver is not end-stage liver disease. He has
17 cirrhosis of the liver. He's maintaining his liver enzymes and
18 his function, but he has cirrhosis. That's a sign of chronic
19 disease there in the liver.

20 Q. But his treating physician said that his liver reserve was
21 excellent.

22 A. Yes. It was important for the chemo.

23 Q. Okay. And this is the office visit that you stated that
24 Dr. Ye talked about that the hepatitis C, I think you used the
25 words, "hidden cells could reactivate." And I just wanted to

1 point out --

2 **MS. MOORE:** If we could go to the top paragraph, and
3 if you could call that out, Mr. Wolfe, please.

4 **Q.** Okay. And, Dr. Levine, I didn't see Dr. Ye say on here
5 anywhere about hidden cells, hidden hep C cells. I just want
6 to make sure I understood your testimony.

7 Are you saying that Dr. Ye thought there were hidden
8 hepatitis C cells?

9 **A.** No. I am saying, and certainly not by this statement, I
10 am saying that Dr. Ye in a practical sense -- even though he
11 said the patient was cured, in a practical sense he was -- he
12 said he's looking at his liver. He's following his liver
13 function in time. He's looking at his history of hepatitis B;
14 he's treating that.

15 So I'm saying in a functional way, what he did, he did
16 something to look at hepatitis C potentially reactivating and
17 he did something to make sure that -- or to try to assure that
18 the hepatitis B would not reactivate.

19 **Q.** And this is the office note that you had Monsanto's
20 counsel pull out in your direct exam; correct?

21 **MR. STEKLOFF:** Objection, Your Honor. This isn't the
22 portion that was pointed out.

23 **BY MS. MOORE:**

24 **Q.** One of them?

25 **THE COURT:** Sustained.

1 **BY MS. MOORE:**

2 **Q.** Did you have defense counsel pull out February 19th, 2015?

3 **A.** Yes. That was where the Dr. Ye discussed hepatitis B and
4 hepatitis C with Mr. Hardeman.

5 **Q.** Okay. And in this paragraph -- and then I'm going to have
6 you look at the whole office note from February 19th, 2015 --
7 does Dr. Ye mention at all that hepatitis C is hidden in
8 Mr. Hardeman's body?

9 **A.** No. There would be no reason for him to do that and he
10 did not.

11 **Q.** Okay. And that's because there's actually no evidence, no
12 facts that tell us that there was hidden hepatitis C cells;
13 correct?

14 **A.** That's correct. He's just going to take care and be very
15 careful because of it.

16 **Q.** And when you say "be very careful," that meant getting
17 blood tests while he was undergoing chemotherapy; correct?

18 **A.** Yes, and concern about his blood counts and so forth.

19 **Q.** Okay. And, in fact, the whole time he was going through
20 chemotherapy -- and the jury will recall this blowup from last
21 week -- now, this is really a test of my -- I got it.

22 **MS. WAGSTAFF:** Here.

23 **MS. MOORE:** I got it.

24 **Q.** Okay. And this is Exhibit 940 and, Dr. Levine, I'm going
25 to turn this. The test is not over.

1 Okay. All right. Can you see that, Dr. Levine?

2 **A.** Yes, I can.

3 **Q.** And you're familiar with this? Have you been shown this
4 by counsel for Monsanto?

5 **A.** Yes.

6 **Q.** Okay. And down here where it's shaded in gray, this is a
7 summary, first of all, of Mr. Hardeman's test results for his
8 hepatitis C viral load?

9 **A.** Correct.

10 **Q.** And you've looked at all those test results; correct?

11 **A.** I did.

12 **Q.** And you agree that in January 2005, he tested positive,
13 meaning that he had active hepatitis C in his blood and serum;
14 is that correct?

15 **A.** That was correct.

16 **Q.** Okay. And then he went through the antiviral therapy to
17 get rid of the hepatitis C; correct?

18 **A.** Correct.

19 **Q.** And within the 12 weeks that we talked about, the rapid
20 response, they did another test and he was negative?

21 **A.** Yes.

22 **Q.** So those levels -- and I think you showed this -- let's
23 see... Those levels dropped from --

24 **MS. MOORE:** Ms. Melen, can I have the Elmo? This time
25 I'm actually going to use it.

1 This is (indicating).

2 MR. STEKLOFF: Sure.

3 MS. MOORE: Okay.

4 MR. STEKLOFF: No objection, Your Honor.

5 BY MS. MOORE:

6 Q. And I'll just show the jury. This is January 14th, 2005.

7 Do you see that on your screen, Dr. Levine?

8 A. I do.

9 Q. Okay. And that's the same date we have up on the top of
10 the chart?

11 A. Correct.

12 Q. Okay. And if we look at -- this is the hepatitis C RNA
13 test results. Do you see that?

14 A. Yes.

15 Q. And so January 14th it's the 731,784 number; is that
16 right?

17 A. Correct.

18 Q. And so if we go -- and so that meant his levels were
19 elevated?

20 A. Yes.

21 Q. He had active hepatitis C?

22 A. Yes, he did.

23 Q. Okay. And so if we go to the next date --

24 MS. MOORE: Counsel?

25 MR. STEKLOFF: No objection.

1 **MS. MOORE:** Okay.

2 **Q.** -- the February 23rd, 2006, date -- and you see that right
3 here (indicating) -- and here's the RNA. And so by
4 January 23rd, 2006, within 12 weeks of treatment starting, they
5 noted that his RNA level was negative; right?

6 **A.** Exactly. Yes.

7 **Q.** So it went (snap) right back down?

8 **A.** Yes.

9 **Q.** And that's a good thing?

10 **A.** It's a very good thing.

11 **Q.** Okay. And the whole time he was going through
12 chemotherapy, which is what we shaded in gray -- that's the
13 time period; is that right?

14 **A.** Correct.

15 **Q.** -- the levels still stayed negative; correct?

16 **A.** That is correct.

17 **Q.** And that meant he still didn't have hepatitis C in his
18 blood?

19 **A.** He did not.

20 **Q.** Okay. So from February 23rd, 2006, 2007, 2008, 2009,
21 2011, and then once he got diagnosed with NHL, they started
22 checking it again, it was all negative?

23 **A.** That's true, uh-huh.

24 **THE COURT:** Ms. Moore, roughly how long do you have
25 left?

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1 **MS. MOORE:** That's dangerous, Your Honor. Probably
2 20, 25 minutes.

3 **THE COURT:** Okay. Why don't we take another
4 five-minute break. We'll resume at 15 minutes after 11:00.

5 (Proceedings were heard out of the presence of the jury:)

6 **THE COURT:** You can go ahead and step down.

7 And so based on that, it looks like what we can do is
8 finish up with Dr. Levine and then take our lunch break and do
9 Dr. Arber after lunch.

10 Okay.

11 **MS. MOORE:** That sounds great.

12 **MR. STEKLOFF:** Your Honor, I'll probably ask for a
13 sidebar before I start my redirect.

14 **THE COURT:** That's fine.

15 And one thing. On the admissibility of these medical
16 records, I mean, assuming that the particular records that were
17 being asked about on direct were properly authenticated by the
18 treating physicians, it's not clear why there would be a
19 problem admitting them. I mean, I'm happy to hear further
20 discussion about that.

21 I mean, the question would be: Once they're properly
22 authenticated, is there anything wrong with admitting them
23 through an expert at a minimum for the limited purpose of
24 allowing the expert to explain the basis of their testimony?
25 I'm not sure there would be, but we can have further --

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1 **MS. MOORE:** And my position is I don't think they were
2 properly authenticated. Those were not pages that came in
3 through the doctors' depositions.

4 **THE COURT:** And if that's the case, that may be a real
5 problem with admitting them.

6 **MS. MOORE:** Yes.

7 **THE COURT:** But you didn't object to publishing them
8 to the jury.

9 **MS. MOORE:** Absolutely, because I do think an expert
10 can testify as to what they relied on, Your Honor, but whether
11 it gets admitted into evidence is a different question. And I
12 don't think she can authenticate the records because that's
13 based on hearsay, and that would be admitted for the truth of
14 what's in those records and that would be what's improper.

15 **THE COURT:** Well, I might have thought the distinction
16 was between admitting them for a limited purpose and not
17 admitting them at all. I mean, in other words, I think you
18 might have been able to object to publishing them to the jury
19 as well if they were not properly authenticated through one of
20 the physicians.

21 **MS. MOORE:** I see.

22 **THE COURT:** But once you didn't object to that, then
23 it seems to me the real distinction is not between publishing
24 and admitting but between admitting for a limited purpose and
25 admitting for the truth. I'm not sure. I'm just floating my

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1 thoughts with you here.

2 **MS. MOORE:** I understand. It's probably a distinction
3 without a difference to the jury, though. I mean, they're not
4 going to understand that, oh, this is for the truth, this is
5 not. That's a legal distinction.

6 **THE COURT:** So I'm just floating my sort of reaction
7 to this issue that came up. I'm not making a ruling.

8 **MS. MOORE:** I understand. Okay. I'll think about
9 that, Your Honor.

10 **MR. STEKLOFF:** If I can just say, Your Honor, I mean,
11 we have affidavits from the custodian of records from Kaiser
12 authenticating all of the medical records, and I think the
13 doctors were asked about medical records. Just because a
14 specific page was not shown does not change the authentication.
15 Then there is a hearsay exception to medical records.

16 **THE COURT:** Right.

17 **MR. STEKLOFF:** So I think we have --

18 **THE COURT:** That's why I think, like, the biggest deal
19 is whether they have been properly authenticated for purpose of
20 admission, and they're supposed to be authenticated in front of
21 the jury unless the parties stipulated to authentication. So,
22 anyway, that's the issue to discuss at a later time I would
23 think.

24 **MR. STEKLOFF:** I thought we had agreed that there were
25 no questions about the authenticity of all of the medical

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1 records, and we do have affidavits from the custodian of the
2 medical records.

3 **THE COURT:** Okay.

4 **MS. MOORE:** And, Your Honor --

5 **MR. STEKLOFF:** I don't think it's the biggest deal in
6 the world whether these records go back or not, but...

7 **THE COURT:** Yeah.

8 **MS. MOORE:** And, Your Honor, just a reminder to
9 Dr. Levine that she cannot speak to counsel on the break
10 because she's under her cross.

11 **THE COURT:** Well, she can speak to them but not about
12 her testimony.

13 **MS. MOORE:** Okay. That's fair, Your Honor.

14 **THE COURT:** All right.

15 **MS. MOORE:** Thank you.

16 **THE CLERK:** Court is in recess.

17 (Recess taken at 11:12 a.m.)

18 (Proceedings resumed at 11:19 a.m.)

19 (Proceedings were heard out of presence of the jury:)

20 **THE COURT:** What I'm tentatively considering doing now
21 is having the -- finishing up on the cross, and then whatever
22 you want to talk, discuss at sidebar, maybe we will actually do
23 that over the lunch break and have Dr. Levine come back after
24 lunch for redirect. It kind of depends on, you know, the
25 length of the discussion that we need to have about it.

1 **MR. STEKLOFF:** It might be quick.

2 **THE COURT:** Okay. Well, we will have a quick sidebar
3 after the cross, and then we will see how it goes.

4 **MR. STEKLOFF:** Absolutely, Your Honor. Thus far, I
5 would say the redirect is less than five minutes.

6 (Proceedings were heard in the presence of the jury:)

7 **THE COURT:** Okay. You can continue.

8 **MS. MOORE:** Thank you, Your Honor.

9 **BY MS. MOORE**

10 **Q.** Okay. Dr. Levine, right before the break, we were talking
11 about hepatitis C; and I just want to make sure I said this
12 correctly because we are talking about hepatitis B sometimes
13 and hepatitis C sometimes.

14 **A.** Right.

15 **Q.** So let's make sure we are on the same page. So in 2006
16 when he underwent antiviral therapy for hepatitis C, he had a
17 rapid response within 12 weeks; correct?

18 **A.** Correct.

19 **Q.** Okay. And that his doctors declared him cured of
20 hepatitis C in 2006, correct?

21 **A.** Correct.

22 **Q.** Okay. And then his doctors determined that he was immune
23 for hepatitis B in 2005; is that right?

24 **A.** That was the word they used.

25 **Q.** And then when he underwent chemotherapy, the hepatitis,

1 either the B or the C, did not reactivate?

2 A. That's true.

3 Q. I'm just going to put B and C here; is that fair?

4 A. Yes.

5 Q. Okay. Great. Now, you talked some about -- actually, I'm
6 going to use your chart, if that's okay?

7 A. Sure.

8 Q. I think that would be helpful. I understood your
9 testimony to be that he had an acute hepatitis C infection.
10 That means you have active virus?

11 A. Correct.

12 Q. And we know that Mr. Hardeman hasn't had active virus
13 since 2006, correct?

14 A. That's true.

15 Q. And you are saying some people have active virus and
16 nothing happens and they are fine?

17 A. The minority, correct, 15 percent.

18 Q. And in -- some people may have active virus, and they may
19 have it a long time; and they may not even know they have it,
20 right?

21 A. Absolutely, just like Mr. Hardeman.

22 Q. I think you said Mr. Hardeman had active hepatitis C for
23 something like 39 years?

24 A. That's correct.

25 Q. And just to be clear, those 39 years, he didn't know he

1 had hepatitis C?

2 A. That's a very common situation.

3 Q. And then you drew an arrow that if you have moderate, it
4 goes to chronic hepatitis. And if you have severe, it goes to
5 cirrhosis, right?

6 A. Correct.

7 Q. Okay. And we know Mr. Hardeman had cirrhosis?

8 A. We do.

9 Q. Okay. And then you went down to cancer from there. Now,
10 Mr. Hardeman does not have liver cancer, correct?

11 A. He is still being evaluated for that routinely by his
12 doctors. They get ultrasounds of his liver and
13 alpha-fetoprotein. They are always going to be monitoring him
14 for liver cancer.

15 Q. That is preventative, right? You just want to make sure
16 that he doesn't have liver cancer because that's a risk, right?

17 A. It's not preventative. They are looking for an early
18 diagnosis, just like with the lung cancer and smoking. They
19 are looking for something early that might be curable that they
20 know he is still at risk.

21 Q. And to be clear he does not have liver cancer?

22 A. No, he does not.

23 Q. And they never found any signs to say that he has liver
24 cancer?

25 A. No. Thank goodness they haven't.

1 Q. And are you familiar with what's called -- I think it is
2 ALT serum?

3 A. ALT is one of the enzymes that is present in liver cells.

4 Q. Okay. And Mr. Hardeman's ALT enzyme has been normal for
5 the last 13 or so years, correct?

6 A. Yes, it has.

7 Q. Okay. And that's a good thing, right?

8 A. It's a very good thing for him.

9 Q. And then you got end-stage liver disease. Now, that's not
10 Mr. Hardeman, right?

11 A. No, that isn't. He is on the left arrow there, a cancer
12 arrow.

13 Q. Okay. And so just to be clear, this diagram is not
14 Mr. Hardeman. It is just an example that you put together in
15 general; is that fair?

16 A. Yes, it is the general outcome of patients with HCV
17 infection.

18 Q. Okay. Now, you have got NHL under cirrhosis -- and I want
19 to be really clear about this -- Dr. Levine, cirrhosis does not
20 cause non-Hodgkin's lymphoma?

21 A. That's absolutely correct.

22 Q. Okay.

23 A. It's a sign of chronic infection of the liver.

24 Q. Okay. So isn't it misleading, though, to put
25 non-Hodgkin's lymphoma right below cirrhosis?

1 **A.** Well --

2 **MR. STEKLOFF:** Objection, Your Honor.

3 **THE COURT:** Overruled.

4 **THE WITNESS:** I put two basic outcomes. One for
5 chronic infection by HCV, and the cirrhosis -- which is meant
6 to mean that is how I know he has chronic infection by HCV --
7 and there are two outcomes of that. One is end-stage liver
8 disease -- which luckily for Mr. Hardeman he did not have --
9 and the other was the development of cancer many years later.
10 He is still being worked up and evaluated to make sure that
11 they can catch liver cancer early if it happens, and he did
12 develop non-Hodgkin's lymphoma.

13 **BY MS. MOORE**

14 **Q.** Well, what I heard you -- when you were down here with the
15 diagram, you pointed to cirrhosis; and then you went down to
16 the arrow to non-Hodgkin's lymphoma and you said cirrhosis with
17 lymphoma. That's not accurate, is it?

18 **A.** If I said that, I'm sorry. Because I don't mean to imply
19 that cirrhosis causes non-Hodgkin's lymphoma. What I meant was
20 cirrhosis is a sign of chronic HCV infection. And once one
21 has -- that is an objective kind of thing. And once you have
22 chronic infection and cirrhosis proving that, there are two
23 outcomes. One is cancer; one is end-stage, dying of liver
24 disease.

25 **Q.** Okay. So really this diagram here, we have cirrhosis and

1 the arrows pointing down. NHL shouldn't be there, right?

2 **A.** I disagree. Cancer is an outcome with chronic hepatitis C
3 infection as proven by the fact that he has cirrhosis, and
4 there are two cancers that had been associated with hepatitis C
5 at this point. One is liver cancer, and one is non-Hodgkin's
6 lymphoma.

7 **Q.** I understand that, Dr. Levine. But cirrhosis does not
8 cause non-Hodgkin's lymphoma?

9 **A.** No. Chronic infection by hepatitis C causes non-Hodgkin's
10 lymphoma.

11 **Q.** But you didn't have -- I'm sure you have had experience
12 with this -- that you can have people who have chronic
13 hepatitis C infection and they never get non-Hodgkin's
14 lymphoma, correct?

15 **A.** Certainly.

16 **Q.** Okay. Now you talked about these hit-and-run cells.

17 **A.** Hit-and-run virus.

18 **Q.** Sorry. Virus. Hit-and-run virus.

19 I want to talk actually just about hepatitis B first,
20 okay?

21 **A.** Sure.

22 **Q.** Do you agree that hepatitis B -- that the virus actually
23 infects the cell? In other words, the virus enters the cell?

24 **A.** Yes, it does.

25 **Q.** Okay. And by entering the cell, that's what actually

1 leads to the development of lymphoma cells or can lead to the
2 development of lymphoma cells?

3 **A.** If the hepatitis B enters the cell, it can cause mutations
4 in the DNA; and the mutations in the DNA of that cell may lead
5 to non-Hodgkin's lymphoma.

6 **Q.** Okay.

7 **A.** Or liver cancer for that matter.

8 **Q.** And were you saying that those hit-and-run cells are in
9 hep B or hep C?

10 **A.** Both. Both.

11 **Q.** And what is your evidence that there is something called a
12 hit-and-run cell for hepatitis B?

13 **A.** There are data to suggest that hepatitis B does get into
14 the B-cell; does cause mutations in the B-cell. This field is
15 younger in a sense and more difficult because most patients
16 with hepatitis B infection clear that infection. So you are
17 looking at the minority.

18 On the other hand, we know by the scientific literature
19 that hepatitis B infects B lymphocytes. It infects liver
20 cells. It causes mutations in those cells associated with
21 development of lymphoma.

22 **Q.** Okay. And in this case Mr. Hardeman's body, his immune
23 system, actually kept the hepatitis B at bay, the virus; and
24 that's why his doctor said he was immune in 2005.

25 **A.** It did keep it at bay. I don't know for how long.

1 Q. Okay. So you were about to tell me what evidence you have
2 to support your theory that there is hit-and-run cells for
3 hepatitis B.

4 A. The data really -- the hit-and-run mechanism has not been
5 published for hepatitis B. What has been published is
6 hepatitis B gets into the cell, causes mutations, and at that
7 point conceptually it would be the same. Whether it is there
8 or not, the mutation is there.

9 Q. So you don't have any evidence to support your theory as
10 to this hit-and-run of hepatitis B cells?

11 A. I can't say that. I can say that for hepatitis C
12 certainly.

13 Q. Okay. And we are going to get to hepatitis C in just a
14 little bit.

15 A. Okay.

16 Q. So do you agree, though, that for hepatitis B, when
17 someone like Mr. Hardeman's body can fight off the hepatitis B
18 virus and is immune to hepatitis B -- I mean, he actually was
19 vaccinated, right?

20 A. I'm not aware that he was vaccinated, and his blood tests
21 are not consistent with having been vaccinated. His blood
22 tests are consistent with having had an infection by that
23 hepatitis B and his immune system clearing.

24 Q. You didn't see in the records the vaccination back in
25 2005?

1 **A.** No, I did not.

2 And if he did have a vaccination in 2005, it didn't take
3 because the sign of vaccination of hepatitis B is antibody to
4 the surface antigen of hepatitis B. His surface antigen
5 antibody negative core, antibody positive; that is the
6 signature of a past infection.

7 **Q.** Well, and we actually don't know if Mr. Hardeman had a
8 past infection of hepatitis B, correct?

9 **A.** I disagree. The blood tests that were done are
10 consistent, fully consistent. That is the definition of a past
11 infection. He was exposed. Exposed means it got into his
12 body. His body saw it. His body responded to it.

13 **Q.** And his body could have responded right then, correct?

14 **A.** I don't know. That's what I was saying. I have no idea
15 when his body responded to it.

16 **Q.** Okay. And you don't know if the hepatitis B, in fact, did
17 any type of damage to his B-cells?

18 **A.** I don't know that.

19 **Q.** Okay. So on hepatitis B, do you agree then, that for
20 Mr. Hardeman, that once he went through the antiviral therapy
21 and he had been declared immune, that he had no more risk -- no
22 more increased risk for developing non-Hodgkin's lymphoma from
23 the hepatitis B?

24 **A.** Let me say a few things. He never got anti-retroviral
25 therapy for hepatitis B. On the other hand, there is

1 literature to suggest that if somebody has positive antibody to
2 hepatitis B core without surface, they are at increased risk of
3 developing non-Hodgkin's lymphoma and diffuse large B-cell.

4 Q. And what is your evidence to support that theory?

5 A. It's one of your -- can I take a moment to find this?

6 Q. Absolutely.

7 (A brief pause was had.)

8 BY MS. MOORE

9 Q. Are you in my binder, Dr. Levine?

10 A. Maybe I'm not. Let me see here.

11 Q. The white one? Yes.

12 A. Maybe it is in my binder.

13 Q. Do you know the name of the author?

14 A. Not off the top -- just one second.

15 MS. MOORE: Okay.

16 (A brief pause was had.)

17 THE WITNESS: I'm sorry I'm taking so much time.

18 MS. MOORE: That's okay.

19 (A brief pause was had.)

20 MR. STEKLOFF: Your Honor, because there are multiple
21 binders, it might help if she looks at the other binder.

22 THE WITNESS: Pardon me?

23 MR. STEKLOFF: It might help if you looked at the
24 other binder that we looked at this morning, Dr. Levine.

25 THE WITNESS: Okay.

1 (A brief pause was had.)

2 **THE WITNESS:** Okay. So it is tab 1555 on the
3 Defendant's piece here. What we see --

4 **THE COURT:** The black binder then?

5 **THE WITNESS:** It is the black binder, yeah, 1555 and
6 table --

7 **BY MS. MOORE**

8 **Q.** That's the Wang article?

9 **A.** That is Wang -- Feng Wang.

10 **Q.** Let's pull that up.

11 **MS. MOORE:** Mr. Wolfe, can you pull up Exhibit 1555,
12 please.

13 May I publish please, Your Honor?

14 **THE COURT:** Sure.

15 **BY MS. MOORE**

16 **Q.** And is this the article that you believe supports your
17 opinion that for hepatitis B there are hit-and-run cells?

18 **A.** No. The question was -- well, ask the question again, if
19 you don't mind.

20 **THE COURT:** Would you like to have the question read
21 back?

22 **THE WITNESS:** Please.

23 (Record was read as requested.)

24 **THE WITNESS:** I said I disagreed. And the data is an
25 article by Wang and colleagues that is in the exhibit. And if

1 we can look at table 4 --

2 **MS. MOORE:** So if we can go, Mr. Wolfe, it is
3 page 1363, let's pull up table 4.

4 **THE WITNESS:** And so Mr. Hardeman is antibody
5 positive, anti-hepatitis B virus C positive. Anti-HBC
6 positive.

7 **BY MS. MOORE**

8 **Q.** I'm sorry, Dr. Levine. If I can stop you right there for
9 a second. So where it says anti-HBC, that is the core antibody
10 for hepatitis B; is that correct?

11 **A.** Yes. So it is the antibody for the core protein of
12 hepatitis B, indicating that this patient would have been
13 infected by hepatitis B in the past --

14 **Q.** Okay.

15 **A.** -- for sometime.

16 **Q.** Now, isn't it true that that group of patients that are
17 positive core antibody for hepatitis B, that would include
18 patients who are positive antigen and negative antigen?

19 **A.** Yes.

20 **Q.** Okay. And let's make sure that we are using the same
21 terminology, Dr. Levine. So when someone has hepatitis antigen
22 positive, that means they have active virus?

23 **A.** Yes.

24 **Q.** Okay. And so when someone is negative hepatitis B
25 antigen, that means they don't have active virus?

1 **A.** That's true.

2 **Q.** Okay. And so this group here for the core antibody
3 positive that we have highlighted here includes both people who
4 have active and not active hepatitis?

5 **A.** It may. Doesn't really say that. What it is really
6 looking at is those patients who are pure hepatitis C antibody
7 positive, but if we go to table 5.

8 **Q.** Hepatitis B?

9 **A.** B, sorry.

10 **Q.** Sorry. And let me stay right on table 4 for just a
11 moment. Okay?

12 **A.** Sure.

13 **Q.** On that, would you agree that if someone is positive
14 hepatitis B antigen, that would increase their odds ratio?

15 **A.** Oh, yes.

16 **Q.** And if someone is negative antigen hepatitis B, it would
17 decrease their odds ratio?

18 **A.** Perhaps.

19 **Q.** Okay. And so this figure here, the 1.8 odds ratio, you
20 pointed out on direct with Monsanto's attorney, that actually
21 is misleading because it contains people who no longer have
22 active virus and people who have active virus?

23 **A.** Yes, but it includes people who have had inactive virus as
24 well.

25 **Q.** Right. And so we don't know what the odds ratio would be

1 if you take out the people who have active virus and core
2 antibody, correct?

3 **A.** Yes, but there is further clarification on the next table.

4 **Q.** Okay. Well, let's go to table 5 then. Which line did you
5 want to highlight there?

6 **A.** The last one. In other words, no antibody to surface
7 antigen, and positive antibody to core. And that's what
8 Mr. Hardeman had.

9 **Q.** Right. But that doesn't tell us the number of those
10 patients -- well, it tells us 130 patients -- I didn't mean to
11 touch that, I apologize -- but it doesn't give us the data as
12 to whether an antibody -- core antibody for hepatitis B
13 increases the risk?

14 **A.** It tells us -- this is the line that defines the serology,
15 that defines the answers, the results of Mr. Hardeman's
16 hepatitis B evaluation. So he had no antibody to the surface.
17 He had antibody to the core. If he had had a vaccine, if he
18 had been vaccinated, he would have had antibody to the surface
19 and no antibody to the core.

20 So his serology, his blood tests, shows that he has had
21 hepatitis B infection in the past. And this particular table
22 looks at 130 patients with non-Hodgkin's lymphoma in whom that
23 profile was met in the control group, far less -- and this was
24 highly statistically significant.

25 So people who have been exposed to hepatitis B in the past

1 and have cleared it, are still at risk for B-cell lymphoma, and
2 that would be consistent with a hit-and-go kind of a process.

3 Q. But that's not what this article is saying. This article
4 doesn't talk about hit and run.

5 A. No. I'm just saying that this is -- in other words, there
6 is no active virus there, and yet there is an increased risk of
7 B-cell lymphoma, and those are the -- that is the serology.
8 That is the blood test of Mr. Hardeman.

9 Q. Okay. But you would agree, though, that the rate actually
10 was higher in the control group?

11 A. I don't agree that. This was statistically highly
12 significant. Highly significant.

13 Q. So when we look at the table 5, it tells us that the rate
14 was higher in the group with B-cell NHL than the control group?

15 A. Yes.

16 Q. Okay.

17 A. There were 31 out of 130 -- 31 lymphomas out of 130
18 lymphomas that had that profile versus 17 out of 208 in the
19 control. So there were far more -- statistically more patients
20 with this particular serology, these blood tests, who did
21 develop B-cell lymphoma as opposed to the controls.

22 Q. Okay. Let's look at what the actual text and what the
23 authors have concluded.

24 MS. MOORE: If we go on the same page, Mr. Wolfe.

25 \\\

1 BY MS. MOORE

2 Q. Dr. Levine, it is at the very bottom of the discussion
3 section on that page, in the second column, starting with
4 Conversely. There you go.

5 A. Okay.

6 Q. Do you see where it says Conversely, the combination of
7 positive anti-hepatitis B -- I guess that is core -- the core
8 antibody, correct?

9 A. Yes, correct.

10 Q. And negative surface antigen, correct?

11 A. Negative antibody for surface antigen.

12 Q. I'm sorry, negative antibody for surface antigen, which
13 signifies occult HBC, hepatitis B, infection was higher in the
14 control group than in the study group.

15 Now, that is an incorrect statement based on what we saw
16 in the table or the table is incorrect and the text is right.

17 Do you know which one it is?

18 A. I cannot say other than to say the last sentence: Thus it
19 is reasonable to postulate -- postulate that patients with
20 B-cell lymphoma may have higher prevalence of chronic or occult
21 HBV infection and a lower clearance of the virus.

22 Q. Okay.

23 A. So since that sentence goes with the table, I'm going to
24 believe the table.

25 Q. Okay. But there is a contradiction between -- within the

1 study, this publication, correct?

2 **A.** Let me read the sentence before better.

3 Yes, so it is confusing.

4 **Q.** Okay. And then that last sentence, you emphasized the
5 word "postulate." And that's really another way of saying this
6 is a hypothesis, correct?

7 **A.** There are data. So they have statistically significant
8 data, and they are being very careful with it, which is the
9 right thing to do. And they are saying it is reasonable to
10 postulate that patients with chronic or occult HBV infection
11 and a lower clearance of the virus may be -- may be at
12 increased risk -- or patients with B-cell lymphoma may have a
13 higher prevalence of chronic or occult. And that was what was
14 interesting to me. Occult HBV infection.

15 **Q.** Right. And, Dr. Levine, you said they were being careful,
16 but we just pointed out at least one contradiction in the
17 publication, correct?

18 **A.** Perhaps, uh-huh.

19 **Q.** Okay. And then when it is reasonable to postulate, that
20 means they have a theory. They have a hypothesis. This is not
21 based on any real data, correct?

22 **A.** No, I disagree. They have data -- statistically
23 significant data showing what they said, that they are being
24 conservative about it. And I think that is an appropriate kind
25 of thing to do in a clinical sense. So they have -- they have

1 a finding, which is a pretty interesting finding, that even
2 occult HBV infection may be related to development of B-cell
3 lymphoma.

4 **MS. MOORE:** And we can take that down.

5 **BY MS. MOORE**

6 **Q.** Dr. Levine, what we are really talking about is a
7 hypothetical. That is not the evidence with respect to
8 Mr. Hardeman, correct?

9 **A.** I can't say that. The table showed his exact blood test
10 results, and the table showed that with people with those exact
11 blood test results may, in fact, develop B-cell lymphoma. He
12 did.

13 And I say I have no idea how long he had the active
14 hepatitis B infection. I know that he had infection. And
15 knowing that he had infection, occult now, and that's what
16 Dr. Ye was treating, he gave him lamivudine; gave him a drug to
17 treat somebody who has hepatitis B on board. And what he is
18 trying to do is prevent reactivation there. So he had
19 occult -- he was believed, in a very practical way by the way
20 he was treated, he was believed to have "occult hidden
21 hepatitis B infection."

22 **Q.** Dr. Levine, none of Mr. Hardeman's treating physicians
23 have diagnosed him with occult hepatitis B?

24 **A.** No. They just treated him for it.

25 **Q.** Well, now, Dr. Levine, isn't it fair that what Dr. Ye did

1 was give him a prophylactic, which was to make sure -- because
2 he had at one point a history of hepatitis B at least a decade
3 before his non-Hodgkin's lymphoma diagnosis, he gave him that
4 prophylactic to make sure when he was weakened that hepatitis B
5 did not reactivate; isn't that true?

6 **A.** Hepatitis B could not reactivate if it wasn't there. It
7 can only reactivate if it is there.

8 **Q.** Exactly. It can't reactivate if it is not there. And lo
9 and behold, it did not reactivate, correct?

10 **A.** He gave him a drug so that it would not reactivate, and it
11 did not.

12 **Q.** And even after he stopped -- first of all, he stopped
13 giving the drug, correct?

14 **A.** Correct.

15 **Q.** Even after he stopped giving the drug, it did not --
16 hepatitis B did not reactivate?

17 **A.** That's true.

18 **Q.** So you can't sit here and tell this jury that, in fact,
19 Mr. Hardeman had occult hepatitis B infection?

20 **A.** He was treated in a sense for that. I can't prove that he
21 had it.

22 **Q.** Okay. All right. Let's switch over to hepatitis C and --
23 first of all, was there any other evidence you had on your
24 theory about the occult hepatitis B, other than that Wang
25 article?

1 **A.** I don't have to discuss it now, no, it's all right.

2 **Q.** Okay. Are you sure?

3 **A.** That's fine.

4 **Q.** Okay. All right. Let's go over to hepatitis C then. Do
5 you agree that once Mr. Hardeman reached the sustained
6 virologic response, which we keep calling SVR -- you are
7 familiar with SVR?

8 **A.** Yes, I am.

9 **Q.** Okay. And SVR means the active virus is no longer in the
10 serum, the blood, correct?

11 **A.** Using the techniques, the standard techniques that we
12 have, correct.

13 **Q.** And that -- do you agree, then, that after Mr. Hardeman
14 reached SVR back in 2006 that all the -- if any abnormal cells
15 existed in his body from the hepatitis C, they would have been
16 killed off?

17 **A.** Say that again. I don't believe I agree with that.

18 **Q.** I will rephrase. Sometimes lawyers ask bad questions,
19 sometimes.

20 In 2006 after Mr. Hardeman reached SVR, sustained
21 virologic response, meaning he no longer had active virus in
22 his blood --

23 **A.** Yes.

24 **Q.** -- do you agree then that his risk of non-Hodgkin's
25 lymphoma was no longer there?

1 **A.** I disagree.

2 **Q.** With respect to hepatitis C?

3 **A.** I disagree. He had active infection for 39 years. He
4 could have easily had a mutation at any time during the 39
5 years. And once that mutation was there, it did not matter
6 whether he had a live virus in his blood or not. It didn't
7 matter.

8 **Q.** And, Dr. Levine, to be fair that is your theory, correct?

9 **A.** It is not my theory. We know that. We know that.

10 **Q.** Well, let's make sure we are talking about the same thing.
11 So for those 39 years that he likely had active virus, he did
12 not get non-Hodgkin's lymphoma when he had active virus,
13 correct?

14 **A.** No. That's when he got the mutation.

15 **Q.** Hold on. It's correct that he did not get non-Hodgkin's
16 lymphoma when he actually had active hepatitis C?

17 **A.** He did not get it then.

18 **Q.** Okay. And in your theory is that he got a genetic
19 mutation sometime within those 39 years?

20 **A.** Yes.

21 **Q.** Okay. Wouldn't you agree, though, that when he underwent
22 antiviral therapy in December 2005 to November 2006, that the
23 antiviral therapy would have wiped out -- would have eliminated
24 those genetic mutations?

25 **A.** No. It would have -- it would have gotten rid of anything

1 related to disease in marginal zone lymphoma, but not in
2 diffuse large B-cell, which is what he had.

3 **Q.** So you are saying that the antiviral therapy would have
4 wiped out the genetic mutations that would lead to one cancer
5 but not the other?

6 **A.** Yes, in a sense, uh-huh. That is what is described in the
7 literature.

8 **Q.** Okay. And in what literature is it that you are relying
9 on to say that antiviral therapy only eliminates the bad cells
10 that cause one kind of cancer but not the bad cells that
11 actually is the same kind of cancer Mr. Hardeman has?

12 **A.** There are different kinds of mutations that hepatitis C
13 can cause. There are papers in the literature talking about an
14 abnormality called translocation chromosome 14;18. That
15 particular translocation or chromosome abnormality has been
16 reported in marginal zone lymphoma. It is reported in mixed
17 cryoglobulinemia, which is another hepatitis C-related illness.
18 And translocation 14;18 in the blood has also been described in
19 normal healthy individuals.

20 There are various studies that have shown that use of
21 interferon and ribavirin can eradicate -- can kill those cells
22 with 14;18 translocation. But that's not what Mr. Hardeman
23 had.

24 **Q.** Well, let's back up. So what -- my question to you was:
25 What evidence do you have that once Mr. Hardeman underwent

1 antiviral therapy and he was declared cured, he was SVR, what
2 evidence do you have to support your theory that the genetic
3 mutations were not wiped out?

4 **A.** He had a genetic mutation in his lymphoma cells. He had
5 it. We saw it. It is in his lymphoma cells.

6 **Q.** You would expect to see genetic mutations in lymphoma
7 cells of patients who have diffuse large B-cell lymphoma?

8 **A.** Absolutely.

9 **Q.** And that is a nonspecific finding?

10 **A.** It can be, certainly.

11 **Q.** Okay. All right. So what literature supports your
12 theory?

13 **A.** Which theory?

14 **Q.** That antiviral therapy does not eliminate all of the
15 abnormal cells caused by hepatitis C?

16 **A.** That antiviral therapy does not eliminate? Mr. Hardeman
17 had antiviral therapy. It did not eliminate his risk for
18 developing B-cell lymphoma.

19 **Q.** Okay. Let's look at the actual data. If you can turn --

20 **MS. MOORE:** Permission to publish 1531, please?

21 **MR. STEKLOFF:** No objection, Your Honor.

22 **THE COURT:** Go ahead.

23 **BY MS. MOORE**

24 **Q.** Dr. Levine, are you familiar with this publication by
25 Taborelli?

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1 **A.** Yes, I am.

2 **Q.** And it actually covers hepatitis B and C. It says
3 Hepatitis B and C Viruses and Risk of Non-Hodgkin's Lymphoma:
4 A case control study in Italy.

5 And the jury saw this article last week with
6 Dr. Weisenburger, and I wanted to direct your attention --

7 **THE COURT:** Ms. Moore, I'm sorry. I apologize for
8 interrupting, but I just noticed that it is a couple minutes
9 before noon. It seems like this is going on a little more than
10 anticipated --

11 **MS. MOORE:** I apologize, Your Honor.

12 **THE COURT:** -- which is perfectly fine, but it seems
13 like now might be a time to take a lunch break.

14 **MS. MOORE:** Okay. Thank you, Your Honor.

15 **THE COURT:** So why don't we take a lunch break until
16 12:45. Please remember all my commands about not talking about
17 the case or exposing yourself to any information about it. And
18 we will see you in about 45 minutes.

19 Thank you.

20 (Proceedings were heard out of presence of the jury:)

21 **THE COURT:** You can go ahead and step down. You said
22 you were going to want to speak with me at sidebar.

23 Do you want to deal with this now? I mean, I assume you
24 are going to make some argument about opening the door. Why
25 don't we just have the discussion now?

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1 **MR. STEKLOFF:** I'm fine with that.

2 **THE COURT:** Dr. Levine, I would suggest -- actually, I
3 think it would be helpful if you stay for this discussion so
4 that it would help you understand the parameters of the
5 testimony you would be allowed to provide going forward.

6 **THE WITNESS:** Sure.

7 **MR. STEKLOFF:** Now I might have two issues. But the
8 first issue I wanted to raise is that I think Ms. Moore on the
9 prior chart made the suggestion, clearly implied to the jury,
10 that somehow Dr. Levine just simply ignored Roundup. And that
11 in listing the risk factors, she did an incomplete analysis
12 because she didn't consider Roundup. She didn't consider
13 pesticides. She didn't consider herbicides. And, in fact,
14 wrote down Roundup in between the other risk factors that she
15 did consider. I think that opens the door to the fact that,
16 because we know Dr. Levine did consider Roundup -- and I think
17 we can do this safely without going into the AHS and the
18 details of the studies by proposing -- asking four yes-no
19 questions that I think now are necessary to deal with this
20 misimpression that has been made. I think I should be able to
21 ask Dr. Levine, Did you review all of the available published
22 epidemiology regarding Roundup or glyphosate and non-Hodgkin's
23 lymphoma? Based on that review -- I assume she would say yes
24 to that. Based on that review --

25 **MS. MOORE:** Well, Your Honor, now he is telling

PROCEEDINGS

1 Dr. Levine how to answer his questions too.

2 **THE WITNESS:** It is yes.

3 **THE COURT:** Let's lighten up a little bit.

4 **MS. MOORE:** I know.

5 **MR. STEKLOFF:** Based on that review, in your opinion
6 is Roundup or glyphosate a cause of non-Hodgkin's lymphoma?

7 **THE WITNESS:** No.

8 **MS. MOORE:** Now she is answering his question.

9 **THE WITNESS:** I don't know what I'm supposed to do.

10 **THE COURT:** I don't need you to answer.

11 **MS. MOORE:** Your Honor, I mean --

12 **THE COURT:** It is obvious what your answer is going to
13 be, but right now we are talking --

14 **MS. MOORE:** I mean, he is basically practicing his
15 redirect with the expert witness standing --

16 **THE COURT:** Okay. So would you prefer that she be out
17 of the room? Because the point of her being in the room is to
18 make sure that she understands the parameters, but I would be
19 perfectly -- if you prefer her to be out of the room, that's
20 fine.

21 I mean, the whole thing seems a little silly to me because
22 we all know what her answers are to these questions, but if you
23 prefer her to be out of the room and want to increase the risk
24 that she is going to not be able to clearly follow the
25 parameters that we establish, we can do it that way.

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1 **MS. MOORE:** I understand, Your Honor. I'm just
2 lodging my objection.

3 **THE COURT:** Okay. But you know what her answers are
4 to these questions. We all know what her answers are, right?
5 You have deposed her about them.

6 **MS. MOORE:** We have not taken her deposition,
7 Your Honor, but yes.

8 **MR. STEKLOFF:** That was their choice.

9 **MS. MOORE:** What was the second question? I'm sorry.

10 **MR. STEKLOFF:** Based on that review --

11 **THE COURT:** Hold on a second. Do you want her out of
12 the room?

13 **MS. MOORE:** No. She can stay. I just ask her not to
14 answer the question.

15 **THE COURT:** Okay.

16 **MR. STEKLOFF:** Based on your review -- based on that
17 review, in your opinion is Roundup or glyphosate a cause of
18 non-Hodgkin's lymphoma? Did you provide that opinion in your
19 expert report? And is that why you did not consider Roundup a
20 potential cause of Mr. Hardeman's non-Hodgkin's lymphoma?

21 **THE COURT:** Any objection?

22 **MS. MOORE:** Yes, Your Honor.

23 **THE COURT:** What could the objection be in light of
24 what you did on that chart?

25 **MS. MOORE:** Well, I'm not done with my cross, too,

PROCEEDINGS

1 Your Honor.

2 She said on direct that she did not consider Roundup
3 because Mucci said it was not a risk factor. That's what
4 she -- and I don't know if that was direct or cross. I
5 apologize, Your Honor.

6 And so she has already testified that she relied on
7 Dr. Mucci's opinion in this case that there is no evidence that
8 Roundup is a risk factor -- or causes cancer. So for her now
9 to go back and be able to say, Well, actually not only did I
10 look at Mucci but these studies, I did not open the door for
11 her to go beyond that. I very clearly asked her, You did not
12 list a risk -- Roundup as a risk factor. And that's what
13 she -- she did not do that. She did not put in her report, she
14 did not say, This is a risk factor for non-Hodgkin's lymphoma.
15 She actually -- her opinion is it is not a risk factor for
16 non-Hodgkin's lymphoma because that's what Dr. Mucci tells her.
17 That's what has been the testimony. I did not open the door
18 beyond that.

19 **THE COURT:** Okay. That -- your request to answer
20 those questions -- ask those questions is granted.

21 **MR. STEKLOFF:** Thank you, Your Honor.

22 **THE COURT:** You can't answer the questions; you can
23 only ask them.

24 **MR. STEKLOFF:** And I will let Dr. Levine know she
25 should use one word to answer these questions.

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1 And, then, Your Honor, I also think now that she has
2 opened the door to BCL6. I understand that BCL6 doesn't only
3 occur in patients with hepatitis C. She directly asked
4 Dr. Levine what data she has.

5 And we know from the studies that we showed earlier, the
6 study that showed the hit-and-run, direct hit-and-run
7 mechanism, that BCL6 in that article -- in that drawing that we
8 blew up, that -- and I think consistent with your order I
9 didn't draw any attention to it -- but we know that BCL6 in the
10 literature is associated with that direct hit-and-run
11 mechanism. She has now asked what data there is. We know that
12 Mr. Hardeman had a significant number of BCL6 mutations, and I
13 think it is fair game on redirect now.

14 **MS. MOORE:** Your Honor -- go ahead.

15 **THE COURT:** And let me give you -- I'm happy to hear
16 argument from them about this, and it may be something that I
17 want to think about a little bit more over the lunch break and
18 talk about it a little more before we resume.

19 But I guess my gut reaction is that given the way that
20 cross-examination proceeded, you are -- you may well be right
21 that the door was opened to that because I think the
22 cross-examination created a little bit of a misleading
23 impression about what Dr. Levine is basing her statements on,
24 but it would have to be -- if, in fact, that is what I
25 conclude -- and I will hear from them, and I will think more

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1 about it over the lunch break -- but if, in fact, that is what
2 I conclude, the important thing -- and this is why I wanted
3 Dr. Levine to be here for this discussion -- the important
4 thing is that it all has to be done, I think, to avoid a 403
5 problem. It all has -- in order to avoid a problem of
6 misleading the jury about the significance of -- the BCL6?

7 **MR. STEKLOFF:** Yes, Your Honor.

8 **THE COURT:** -- mutation. It has to be done with sort
9 of a clear statement that you cannot discern from the BCL6
10 mutation in the pathology what the cause of the cancer is.
11 Does that make sense?

12 **MR. STEKLOFF:** Yes. And I agree with that,
13 Your Honor. I'm happy to bring that out myself. And then
14 obviously Ms. Moore can follow up on that. But I think that --
15 I mean, she can speak for herself, but that is consistent with
16 Dr. Levine's opinions. So I agree with that.

17 **THE COURT:** Okay.

18 **MS. MOORE:** My response, Your Honor, is that when she
19 provides testimony, I have to be able to ask her what is the
20 basis for your testimony. And so I'm not trying to open the
21 door to anything, but I do have the right to say she lodged
22 this theory.

23 **THE COURT:** You absolutely have the right to ask her
24 questions about what is the basis for her opinion. But if you
25 ask the questions in a way that leave sort of a misimpression

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1 about what her opinion is based on and what it is not based on,
2 then you open the door.

3 In other words, because of Rule 403 -- and because of the
4 rules about expert disclosure -- I said this type of testimony
5 that we are talking about now is out. It would not be fair for
6 Monsanto to elicit this type of testimony from their expert in
7 light of her report and in light of 403 and in light of the
8 misimpression that it creates.

9 But, of course, as with every witness, even if testimony
10 is excluded before they take the stand, the door can be opened
11 to it on cross-examination. And I think -- so -- it seems to
12 me that you did open the door to it on cross-examination. I
13 still have some concerns about the risk of this creating a
14 misleading impression, which is why I made the statement that
15 it has to be absolutely clear that you cannot tell from the
16 pathology -- you cannot tell from the BCL6 damage what the
17 NHL -- how the NHL was caused. That does not -- that doesn't
18 tell you anything.

19 But it also potentially allows Dr. Levine to clear up sort
20 of a misimpression about the lack of evidence that she has or
21 to correct the suggestion that the evidence is actually
22 inconsistent with what she is saying.

23 **MS. MOORE:** Your Honor, I would like to go back and
24 look at the testimony. My understanding is that she was
25 talking about her theory with respect to hepatitis B. And I

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1 asked her What is your basis -- what data -- where in the
2 literature --

3 **THE COURT:** You are talking about hepatitis C now, or
4 B?

5 **MS. MOORE:** I thought it was B, Your Honor.

6 **THE COURT:** He is talking about hepatitis C.

7 **MR. STEKLOFF:** Yes, Your Honor.

8 **MS. MOORE:** Okay. Well, it was the same --

9 **THE COURT:** You are talking about what you just asked
10 right at the very end.

11 **MS. MOORE:** I'm sorry, Your Honor.

12 So I think -- you know, when she lodges -- when she says
13 her testimony, which I can't control what she says, my
14 follow-up is, then, Where does it say that?

15 And I will go back. I would like to have an opportunity
16 to look back through that and make sure that -- first of all,
17 she is not a pathologist.

18 **THE COURT:** Well, your question at the end was What
19 evidence -- something to the effect of what evidence do you
20 have that once -- first of all, you asked a number of questions
21 about -- you are not talking about the evidence in this case,
22 right? You are not talking about the evidence with respect to
23 Mr. Hardeman, right?

24 So even with respect to that, there is an argument that
25 that opened the door. Then you say, Well, what evidence do you

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1 have that once he was declared cured it didn't eliminate the
2 abnormal cells?

3 How did that question not open the door to this?

4 **MS. MOORE:** Well, if you back up, Your Honor, in 156 I
5 said, In what literature is it that you were relying on to say
6 antiviral therapy --

7 **THE COURT:** But that's not the question I'm referring
8 to.

9 **MS. MOORE:** Okay. I'm sorry.

10 **THE COURT:** I'm referring to the question where you
11 said, What evidence do you have that once he was declared
12 cured, it didn't eliminate the abnormal cells?

13 And, again, you asked a number of questions about the
14 evidence in this case, the evidence as it relates to
15 Mr. Hardeman which created an impression, and I'm -- it's not
16 that it is an inappropriate line of questioning -- let me make
17 clear. It is just that it is a line of questioning that, then,
18 opens the door. It is a choice that you make to pursue that
19 line of questioning.

20 **MS. MOORE:** Well, and also, Your Honor, I mean, when
21 she lodges a theory, I can't just let it drop. And they know
22 what the evidence has been excluded. I mean, I'm in a catch-22
23 in that sense.

24 **THE COURT:** I think you put her in catch-22 -- my
25 sense -- like I said, I want to think about it more over the

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1 break. But my sense is that you put her in a catch-22 by
2 asking her that type of question.

3 **MS. MOORE:** Well, if you look at 157, what I said was:
4 What evidence do you have to support your theory that the
5 genetic mutations were not wiped out? And that was a follow-up
6 when we were going through the literature, and she said: He
7 had a genetic mutation in his lymphoma cells. He had it. We
8 saw it. It was in his lymphoma cells.

9 And I said, You would expect to see genetic mutations in
10 lymphoma cells of patients who have diffuse large B-cell
11 lymphomas?

12 And she says, Absolutely.

13 And I said, And that's an nonspecific finding?

14 It can be, certainly.

15 **THE COURT:** Right.

16 **MS. MOORE:** So tell me --

17 **THE COURT:** So one point --

18 **MS. MOORE:** It is not misleading.

19 **THE COURT:** One point that that testimony has already
20 come out.

21 **MS. MOORE:** That's right.

22 **THE COURT:** The only testimony that he wants to pursue
23 has already come out naturally as a result of your
24 cross-examination. So, again, I think that's another reason
25 why it's fair game on direct -- as long as it continues to be

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1 clear -- what you made clear during cross-examination -- which
2 is that it is a nonspecific finding. That is the important
3 thing.

4 **MS. MOORE:** It is, Your Honor. And I just want to
5 make sure that there's not going to be any questions as to
6 causation with respect to a BCL6 translocation on a pathology
7 slide to her. That's really the crux of it. And -- because I
8 don't know how else I can ask her questions about what her
9 opinions are without saying what did you rely on. So, I mean,
10 I'm in a real catch-22 there. But she did clearly state --

11 **THE COURT:** It sounds like we are all in agreement.

12 **MS. MOORE:** Well --

13 **THE COURT:** She is not offering -- she wouldn't offer,
14 even in response to your questions, and she didn't offer --

15 **MS. MOORE:** That's right.

16 **THE COURT:** -- in response to your questions on
17 cross-examination that you can draw any causation conclusion
18 from the slides.

19 **MS. MOORE:** That's correct, Your Honor. And her
20 report doesn't say that either.

21 **THE COURT:** Right. Right.

22 **MS. MOORE:** Okay.

23 **THE COURT:** So to the extent that that's all you are
24 worried about, I think, you know, it is probably okay. You
25 know, again, as long as that point is made clear because I

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1 think if that point is not made clear or if the witness were to
2 be sort of equivocal about that point, it could potentially be
3 a 403 issue. And, again, it could be an issue that -- where,
4 you know, they are testifying to something that is contrary to
5 what is in their report.

6 **MS. MOORE:** Right. And that is my concern. I would
7 like the opportunity just to think about it.

8 **THE COURT:** Yeah, we will all think about it during
9 the lunch break. And why don't we resume at 40 after the hour.
10 Okay.

11 **MS. MOORE:** Thank you, Your Honor.

12 **THE CLERK:** Court is in recess.

13 (Luncheon recess was taken at 12:14 p.m.)

14 **AFTERNOON SESSION**

12:44 p.m.

15 (Proceedings were heard out of presence of the jury:)

16 **THE COURT:** Any further discussion on this?

17 **MS. MOORE:** No, Your Honor.

18 **MR. STEKLOFF:** Nothing from me, Your Honor.

19 **THE COURT:** Okay. Good. So the tentative ruling that
20 I articulated before we left for lunch stands.

21 **MR. STEKLOFF:** Okay.

22 **THE COURT:** And Dr. Levine can testify about that, as
23 long as she makes clear that the pathology is not specific.

24 **MR. STEKLOFF:** I will make very clear that that is a
25 nonspecific finding and that she cannot, from that finding, say

1 that the cause was hepatitis C.

2 **THE COURT:** Okay. Sounds good. Now, I told the jury
3 12:45. They might not be quite ready. Let them take their
4 time if they need to.

5 (A brief pause was had.)

6 (Proceedings were heard in the presence of the jury:)

7 **THE COURT:** Okay. Ms. Moore, you can resume.

8 **MS. MOORE:** Thank you, Your Honor.

9 **BY MS. MOORE**

10 **Q.** Dr. Levine, we -- you have used the term "occult cells,"
11 and I just want to make sure that we define that for the jury.

12 Is what you are saying that in Mr. Hardeman's case when he
13 went through the antiviral therapy for the hepatitis C; that
14 the purpose of that is to kill off the infected cells, right?

15 **A.** The purpose is to decrease the amount of virus in the body
16 so that the patient obtains a clinical benefit; feels better.

17 **Q.** In other words, kill off the infected cells?

18 **A.** Yes.

19 **Q.** Okay. And in your theory is that some of those infected
20 cells stayed behind or hid from the therapy; is that fair?

21 **A.** Yes, there is a name for that, occult hepatitis C
22 infection.

23 **Q.** Okay. So when we are talking about occult cells, that
24 means some cells that remained in the body -- possibly remained
25 in the body and after antiviral therapy. And then the question

1 is what does that even mean, right?

2 **A.** It means it's not cured.

3 **Q.** Okay.

4 **A.** It means you are living with the virus. That's what it
5 means.

6 **Q.** Okay. Well, let's back up. I mean, we have already gone
7 through this, so I'm not going to rehash this, but his doctors
8 declared him cured?

9 **A.** The doctors said he was cured, but then he treated him so
10 that he would not reactivate hepatitis B. And he watched him
11 carefully so he would not reactivate his hepatitis C.

12 **Q.** Okay. I want to -- my questions right now are only going
13 to be about hepatitis C.

14 **A.** Okay.

15 **Q.** I think we have exhausted hepatitis B. All right?

16 **A.** Yes.

17 **Q.** So we are going to focus just on hepatitis C. And it
18 is -- you agreed with me earlier, I just want to make sure this
19 is true -- that his doctors declared him cured of hepatitis C
20 in 2006?

21 **A.** That's what they said.

22 **Q.** Okay. And you are saying that there were some cells that
23 may have been left behind after that antiviral therapy, right?

24 **A.** I'm saying that the literature supports the fact that
25 there are often cells left behind even when the patient has

1 been in SVR for prolonged periods.

2 Q. And SVR meaning no active virus in the blood?

3 A. As it can be detected by standard techniques.

4 Q. Okay. And let's look at the literature -- I think what we
5 are going to look at -- before we go there, in this case, for
6 Mr. Hardeman, this is your hypothetical -- this is your theory
7 that there were some cells left behind, but you don't actually
8 know if that happened?

9 A. Yes, based on the scientific literature, I expect that
10 there are cells left behind. I cannot prove that in
11 Mr. Hardeman.

12 Q. And the jury heard from Dr. Weisenburger last week, and he
13 said that even if there were some cells left behind, they
14 weren't causing any problems because the immune system was
15 keeping them in check.

16 In other words, Dr. Levine, Mr. Hardeman's risk of
17 non-Hodgkin's lymphoma or hepatitis C went away after he went
18 through antiviral therapy?

19 MR. STEKLOFF: Objection. Misstates
20 Dr. Weisenburger's testimony.

21 THE COURT: Sustained.

22 Why don't you re-ask your question.

23 MS. MOORE: Okay. That's fine, Your Honor.

24 BY MS. MOORE

25 Q. Dr. Levine, when Mr. Hardeman went through antiviral

1 therapy in 2006 -- and even if there were some cells that were
2 left behind -- his risk of developing non-Hodgkin's lymphoma
3 from hepatitis C went away, right?

4 **A.** I disagree.

5 **Q.** Let's look at the literature. So let's turn to -- do you
6 have the white binder in front of you?

7 **A.** Yes, I do.

8 **Q.** Tab 1531.

9 **MS. MOORE:** Permission to publish?

10 **MR. STEKLOFF:** No objection, Your Honor.

11 **THE COURT:** Go ahead.

12 **BY MS. MOORE**

13 **Q.** And this is the Taborelli study that the jury saw last
14 week with Dr. Weisenburger, and it is titled Hepatitis B and C
15 Viruses and Risk of non-Hodgkin's Lymphoma: A Case Control
16 Study in Italy. We were about to talk about this right before
17 the break. And you are familiar with this study?

18 **A.** Yes, I am.

19 **Q.** Okay. And so if we can turn over to page 4 of this study.

20 **MS. MOORE:** And if we can go to table 2, Mr. Wolfe,
21 please.

22 Let's talk about hepatitis C, HCV, that first half of the
23 table.

24 Great. Thank you.

25 \\\

1 BY MS. MOORE

2 Q. Okay. Dr. Levine, do you agree that Mr. Hardeman would
3 fall under -- and I know it is kind of hard -- you are looking
4 at the actual paper, too, but you will see there is anti-HCV,
5 so that negative. There is a little negative sign next to
6 it -- and that means negative antibody for hepatitis C,
7 correct?

8 A. Correct.

9 Q. And then the next one is positive antibody for
10 hepatitis C?

11 A. Correct.

12 Q. And then the next category within that is a negative RNA
13 for hepatitis C, correct?

14 A. Correct.

15 Q. And that's Mr. Hardeman?

16 A. That is Mr. Hardeman's status at the time that his
17 diagnosis of lymphoma was made, yes.

18 Q. Okay. And so I want to stop right there because if you go
19 over and you see the odds ratio in the last column, .98 -- do
20 you see that, Dr. Levine?

21 A. Yes, I do.

22 Q. Okay. And what that tells us is that after Mr. Hardeman
23 completed his antiviral therapy and his RNA went to negative
24 for hep C, he no longer was at an increased risk for
25 non-Hodgkin's lymphoma from hepatitis C; isn't that what that

1 tells us?

2 **A.** Yes, statistically the patient would be less likely to
3 develop lymphoma with a negative RNA.

4 **Q.** Okay. Let's go to Exhibit 1413, and this is the -- it is
5 in that same binder -- and it is the Nieters study. And the
6 jury heard from Dr. Weisenburger last week. He showed -- he
7 talked about the Nieters study.

8 **THE CLERK:** Is this to publish?

9 **MS. MOORE:** May I have permission to publish? Thank
10 you.

11 **MR. STEKLOFF:** No objection, Your Honor.

12 **THE COURT:** Go ahead.

13 **BY MS. MOORE**

14 **Q.** Are you familiar with this study?

15 **A.** Yes, I am.

16 **Q.** Okay. And do you agree that when a patient -- and this
17 study showed that only patients with active hepatitis C ended
18 up getting non-Hodgkin's lymphoma?

19 **A.** No, I disagree.

20 **Q.** Okay. Well, do you agree that you can't just look at
21 whether an antibody is present to determine that?

22 **A.** Table 4 indicates that people who are anti-HCV positive --
23 in other words, antibody positive, or HCV RNA positive have an
24 increased risk of diffuse large B-cell lymphoma.

25 **Q.** Right. And that is not Mr. Hardeman, correct?

1 **A.** No. He is -- that is Mr. Hardeman. He is anti-HCV
2 positive. This says anti-HIV positive or HCV RNA positive. He
3 is anti-HCV positive. So he is on that chart.

4 **Q.** But he is RNA negative. So you are including the
5 definition that does not define RNA negative and RNA positive?

6 **A.** Well, you are referring to a paper in which that was done.
7 It is either HIV positive antibody or HCV RNA positive. That's
8 what it says.

9 **Q.** Dr. Levine, I think you said HIV. Did you mean hep C?

10 **A.** I'm sorry. I do that a lot. Forgive me. HCV.

11 **Q.** Okay. All right. But, Doctor -- I mean, Mr. Hardeman was
12 not RNA positive?

13 **A.** Correct. He was RNA negative.

14 **Q.** Okay. So let's go to 1291.

15 **MS. MOORE:** Permission to publish?

16 **MR. STEKLOFF:** No objection, Your Honor.

17 **THE COURT:** Go ahead.

18 **THE WITNESS:** Forgive me. I don't seem to have -- I
19 have 1271 and then I have 1302. Oh, here it is. Here it is.
20 I'm sorry. Yes.

21 **BY MS. MOORE**

22 **Q.** Okay. And, Dr. Levine, this is the study by Kawamura. It
23 is viral elimination reduces incidence of malignant lymphoma in
24 patients with hepatitis C?

25 **A.** Yes.

1 Q. And are you familiar with this publication?

2 A. Yes, I am.

3 Q. Let's turn over then to page 1039. It's the figure 3 on
4 1039?

5 A. Correct.

6 Q. And the jury saw this with Dr. Weisenburger last week.
7 And this shows on this chart -- and this is following patients
8 at over 15 years; is that right?

9 A. Not really. The median follow-up on the patients with
10 treatment was 14 -- I'm sorry, without treatment with
11 persistent infection was 14 years. The follow-up with patients
12 with treatment was only 4.5 years. So I disagree that the
13 overall follow-up was 15 years. It was not. It was very
14 different. Much, much longer in those who had not been
15 treated.

16 Q. Okay. Let's look at what the chart says.

17 A. Okay.

18 Q. And the line that is going up, the broken line that is
19 going up, those are people who still have active hepatitis C,
20 correct?

21 A. Correct.

22 Q. And then in the people who are sustained virological
23 response, like Mr. Hardeman, after they have gone through that
24 treatment and declared SVR are back at baseline. They are at
25 zero percent, correct?

1 **A.** They are.

2 **Q.** Okay. All right. So that means that the therapy works,
3 and that would include people who have possibly occult cells?

4 **A.** If you follow them long enough. You need to follow them
5 long enough.

6 **Q.** The jury will see what that chart says there, 15 years.

7 So let's go to the next one. Omland. It is 917 in your
8 binder.

9 **MS. MOORE:** Permission to publish?

10 **MR. STEKLOFF:** No objection, Your Honor.

11 **THE COURT:** Go ahead.

12 **BY MS. MOORE**

13 **Q.** Dr. Levine, are you familiar with this publication from
14 2012 Liver Cancer and NHL in Hepatitis C Virus
15 Infected-Patients Results from the Danvir cohort study?

16 **A.** Yes, I am.

17 **Q.** Okay. Let's go over then to page 2314. And it is the
18 bottom right bracket.

19 **MS. MOORE:** If we can pull that up, Mr. Wolfe, please,
20 the non-Hodgkin's lymphoma one.

21 Thank you.

22 **BY MS. MOORE**

23 **Q.** And, Dr. Levine, on this graph, does this also show as
24 from the data that once someone becomes RNA negative, that the
25 risk of developing non-Hodgkin's lymphoma goes back to zero?

1 **A.** Yes. And this -- yes, and this certainly would include
2 the marginals on lymphomas as well. This is nonspecific,
3 non-Hodgkin's lymphoma.

4 **Q.** And it would include those people that even after
5 antiviral therapy may have had some occult cells still in their
6 body?

7 **A.** Possibly.

8 **Q.** Okay. All right.

9 **MS. MOORE:** Let's go to the next publication -- and
10 these are all publications the jury saw last week with
11 Dr. Weisenburger. And that is 918. It is the very next study
12 in your binder.

13 Permission to publish?

14 **MR. STEKLOFF:** No objection, Your Honor.

15 **THE COURT:** Go ahead.

16 **BY MS. MOORE**

17 **Q.** This is the Su study, and it is just from last November.
18 Do you see that, Dr. Levine?

19 **A.** I do.

20 **Q.** And it's Early Antiviral Therapy Reduces the Risk of
21 Lymphoma in Patients with Chronic hep C Infection.

22 Are you familiar with this study?

23 **A.** Yes, I am.

24 **Q.** Okay. And let's look over at the graph here -- and it is
25 on page 336. And it is figure 2B for non-Hodgkin's lymphoma.

1 Do you see that?

2 **A.** Yes, I do.

3 **Q.** Okay. And this is really telling us the same thing, the
4 Omland study -- the one right before it -- told us, that for
5 those who go through the antiviral therapy and receive
6 treatment and go to SVR, that their risk of developing
7 non-Hodgkin's lymphoma from hep C goes down to zero; is that
8 right?

9 **A.** No, I disagree. Because as you can tell from the title,
10 what he is really saying is that early antiviral therapy is
11 associated with a decreased risk. Mr. Hardeman had active
12 disease for 39 years. So I don't think this speaks to his case
13 particularly.

14 **Q.** Okay. Well, during those 39 years, Mr. Hardeman didn't
15 have any problems from the hepatitis, correct?

16 **A.** His body did. He was developing cirrhosis of the liver,
17 but he had no symptoms. And that is very common. That is why
18 it is such a difficult issue clinically.

19 **Q.** And you agree that once he was diagnosed with hepatitis C
20 in 2005; that he got the proper treatment and was declared
21 cured?

22 **A.** He got the proper treatment, and the doctors declared him
23 "cured."

24 **Q.** And this chart here shows us at the bottom -- the bottom
25 axis goes out eight years. Do you see that?

1 A. I do.

2 Q. Okay. And when Mr. Hardeman was diagnosed with
3 non-Hodgkin's lymphoma, it had been almost a decade since he
4 had been declared cured of his hep C; isn't that correct?

5 A. Yes. It forgets the first part of his illness where he
6 was not treated for 39 years, but you are correct.

7 Q. Well, it is important also, Dr. Levine, not to forget that
8 when you say "39 years," right, that what happened in the
9 middle of that was that he had treatment and he was cured and
10 that the infected cells were killed off, right? It is
11 important not to forget that too?

12 A. You say that he got treatment in the middle of that, no,
13 he was --

14 Q. No, no, I'm sorry, Dr. Levine. I didn't mean to imply in
15 the middle. He went 39 years. Then he got treatment.

16 A. Yes.

17 Q. So it is important to recognize that fact, that he got
18 treatment. And the purpose of that is to kill off the infected
19 cells.

20 A. To kill off the virus, the virus.

21 Q. Okay. Well, and the virus is what -- what infects the
22 cells, right?

23 A. Yes.

24 Q. Okay. All right. So let's go back to our graph then on
25 the Su article and -- okay. What this shows us, if you are

1 treated and -- up there at the top you see the IFN. That is
2 the interferon, right?

3 A. Correct.

4 Q. And so if you are treated with interferon, like
5 Mr. Hardeman -- and I think he had two different drugs, right,
6 for his hepatitis C?

7 A. Yes, he did.

8 Q. Okay. And that once you are treated, you no longer have
9 the risk of non-Hodgkin's lymphoma, correct?

10 A. I don't interpret this chart in the same way, but that's
11 fine. That's fine.

12 Q. Okay. All right. And then let me show you -- this is
13 from a Giannelli article. Are you familiar with the Giannelli
14 study?

15 A. I am, but would appreciate knowing which tab it was.

16 Q. Sure. Hold on one second and let me grab this.

17 This was shown to the jury last week. Let me tell you
18 what number it is. Just a second.

19 (Whereupon, a brief pause was had.)

20 THE WITNESS: I see it. 952.

21 BY MS. MOORE

22 Q. Did you find it, Dr. Levine?

23 A. 952.

24 Q. Yes, 952. Thank you.

25 MS. MOORE: Permission to publish?

1 **MR. STEKLOFF:** No objection, Your Honor.

2 **THE COURT:** Go ahead.

3 **BY MS. MOORE**

4 **Q.** Okay. This was a publication that Dr. Weisenburger also
5 showed the jury, and we actually have a blowup from it. This
6 is the blowup, Dr. Levine, that the jury saw last week. And
7 you are familiar with this?

8 **A.** Yes.

9 **Q.** Okay. And what this -- do you agree what this shows us is
10 that after antiviral therapy in someone who has hepatitis C,
11 that you see a dramatic drop, and that their liver enzymes
12 become normal, like Mr. Hardeman?

13 **A.** Yes.

14 **Q.** And that their RNA, that virus in the blood, also goes to
15 normal, correct?

16 **A.** Correct.

17 **Q.** And so what Dr. Weisenburger testified to is that this is
18 a good example of what happened to Mr. Hardeman's case. He
19 started out with an elevated -- elevated enzymes and elevated
20 RNA, and then within 12 weeks he dropped down dramatically to
21 baseline. Do you agree with that?

22 **A.** That part of the chart is correct, but these patients did
23 not have lymphoma that were being described in this particular
24 study.

25 **Q.** Right. This is showing what happens when you actually go

1 through antiviral therapy for hepatitis C, correct?

2 A. Yes, correct.

3 Q. And this is what happened to Mr. Hardeman?

4 A. Correct.

5 Q. And the jury was also shown a blowup -- are you familiar
6 with the Zuckerman article -- I know there is two. Let me tell
7 you which one. This is the later one. I think you were asked
8 some questions on your direct examination today regarding the
9 older Zuckerman article; is that right?

10 A. I'm not sure.

11 Q. Okay. Well, let's turn to 1599 in your binder.

12 MS. MOORE: Permission to publish?

13 MR. STEKLOFF: No objection, Your Honor.

14 THE COURT: Go ahead.

15 BY MS. MOORE

16 Q. Are you familiar with this publication by Zuckerman in
17 2001?

18 A. Yes, I am.

19 Q. Okay. And this is also talking about the effect of
20 antiviral therapy with --

21 A. Correct.

22 Q. -- someone with chronic hep C?

23 A. Correct.

24 Q. Okay. I'm going to pull up the chart. That was
25 table 3 -- I have got the blowup here. The jury will remember

1 that this was also shown by Dr. Weisenburger last week.

2 And, Dr. Levine, can you see that?

3 A. Yeah, I can.

4 Q. Okay. I don't know if the jury can see it. If not, you
5 can look on your paper too. I'm sorry.

6 A. I will just look on my paper. It's all right.

7 Q. Sorry. And what this says is that for those patients who
8 had a virologic response -- which is Mr. Hardeman, correct?

9 A. Correct.

10 Q. All right.

11 -- that it actually indicates that -- let me slide through
12 here -- it actually shows that they no longer have an increased
13 risk for non-Hodgkin's lymphoma, correct?

14 A. Well, that really doesn't say that. It just shows the
15 effect on a specific translocation, 14;18. Whether there was a
16 response to 14;18.

17 Q. And there was?

18 A. There was. So of the treated group there were a total of
19 15. Seven of them remained translocation 14;18 positive, and
20 six of them, there was a loss of that translocation 14;18.

21 Q. So you would agree with me that the literature shows that
22 once someone obtains sustained virologic response, that their
23 risk of developing non-Hodgkin's lymphoma from the hepatitis C
24 goes away?

25 A. No, I do not. This translocation 14;18 is not a common

1 translocation in diffuse large B-cell lymphoma, and this
2 doesn't say anything about the lymphoma going away.

3 Q. Okay. Let me back up. I was asking it more generally,
4 Dr. Levine. I apologize.

5 MS. MOORE: We can take it down. Thank you.

6 BY MS. MOORE

7 Q. Going through these articles -- the Tadorelli, Nieters,
8 Omland, Su, Kawamura -- you agree that the data from those
9 articles tells us that once a patient with hepatitis C --
10 active hepatitis C goes through antiviral therapy and obtains a
11 sustained virologic response, in other words the active virus
12 it is out of their blood, that the risk for developing
13 non-Hodgkin's lymphoma from hepatitis C goes away?

14 A. I can't answer it for non-Hodgkin's lymphoma in general.
15 For marginal zone lymphoma what you say is absolutely true.
16 For diffuse large B-cell lymphoma caused by a given mutation,
17 it is not dependent upon active HCV in the blood to get that
18 tumor. It may already have occurred.

19 Q. Those articles don't say that, do they?

20 A. Don't say what?

21 Q. They don't say that it doesn't apply to DLBCL?

22 A. It talks about non-Hodgkin's lymphoma. And one of the
23 things that I was saying at the beginning is the importance of
24 knowing that non-Hodgkin's lymphoma is a big word and has over
25 60 different diseases in them, caused by different things,

1 different illnesses, different clinical illness, different
2 treatment, different prognosis.

3 Q. Okay. Well, let's look at one that shows us DLBCL -- and
4 this is in the context of hepatitis B -- and I know I said we
5 were done with that, but I just want to show this really
6 quickly. And that is 1302, Dr. Levine.

7 MS. MOORE: Permission to publish?

8 MR. STEKLOFF: No objection, Your Honor.

9 THE COURT: Go ahead.

10 BY MS. MOORE

11 Q. This is the Klein/Stern publication that Dr. Weisenburger
12 showed the jury last week. If we could go to page 3, and you
13 see on page 3 it almost looks like forest plots. Do you see
14 that, Dr. Levine?

15 A. Yes, I do.

16 MS. MOORE: One more page, Mr. Wolfe. Thank you.

17 BY MS. MOORE

18 Q. Okay. And you have --

19 MS. MOORE: Well, actually I will have you go back.
20 Thank you.

21 BY MS. MOORE

22 Q. If we go at the very top of that forest plot, that is
23 overall non-Hodgkin's lymphoma.

24 A. Yes.

25 Q. Right?

1 A. Yes.

2 Q. And then they break it down to the next one, which is
3 DLBCL. Do you see that?

4 A. Yes, I do.

5 Q. And so the odds ratio there with 1. Someone who has --
6 like Mr. Hardeman goes back to baseline. Do you see that?

7 A. I do.

8 Q. Okay. Then if we go to the next page, please, they also
9 break it down between overall NHL and DLBCL. Do you see that?

10 A. I do.

11 Q. Okay. And they break it down -- that first one is OBI.
12 Do you see that?

13 A. Yes, I do.

14 Q. And that stands for what you have been calling occult
15 B-cell infection, right?

16 A. Occult hepatitis B infection, correct.

17 Q. Okay. And on this chart it shows that if you are
18 naturally immune, that you do not have an increased risk of
19 developing DLBCL from hep B, correct?

20 A. Correct.

21 Q. And it also tells us that if you are immune via vaccine
22 that you no longer have a risk of developing DLBCL from
23 hepatitis B, correct?

24 A. Yes. And it also shows that if you have a lack of an
25 immune response, you will have an increased risk of diffuse

1 large B-cell lymphoma. An immune -- the import of this article
2 is the importance of the immune system in defining how somebody
3 will do with hepatitis B in terms of lymphoma.

4 Q. Right. And that is important because in Mr. Hardeman's
5 case he never got active hepatitis B after 2005?

6 A. He was also ten years younger then.

7 Q. Right. But ten years later he still didn't have it,
8 right?

9 A. You are correct.

10 Q. Even under your theory that as you get older, your system
11 is weakened.

12 A. Yes.

13 Q. Even when his system is older, he still didn't get it,
14 right?

15 A. He still didn't get lymphoma.

16 Q. He still didn't get the hepatitis B back?

17 A. This is talking -- this graph talks about the risk factors
18 for developing the lymphoma, and it just says that if you don't
19 have a good immune system, you are more likely to get the
20 lymphoma. It doesn't say that you are more likely to get
21 hepatitis B reactivated. That's not what it is looking at.

22 Q. Right. It is showing us that your risk of developing
23 DLBCL from hepatitis B no longer is increased when you are
24 immune, either by vaccine or naturally, correct?

25 A. Yes, it does.

1 Q. Okay. All right. We are almost done, Dr. Levine.

2 I wanted to go back to our risk factors chart, and I
3 wanted to focus on Roundup. We have talked now about
4 hepatitis B and hepatitis C and Roundup -- and I should put on
5 here this was from Weisenburger, right?

6 A. I don't know.

7 Q. Well, you read Dr. Weisenburger's testimony, right?

8 A. Yes, but do you mean that chart is from him? I'm not
9 sure.

10 Q. No. I apologize. Let me clarify.

11 That when we are talking about risk factors for
12 Mr. Hardeman, Dr. Weisenburger testified that he would include
13 Roundup?

14 A. Yes, he did.

15 Q. Okay. And I understand your testimony is that you would
16 not include Roundup.

17 A. That's true.

18 Q. Okay. So I was just clarifying that this was
19 Dr. Weisenburger only. Age, weight, hep B and hep C,
20 Dr. Weisenburger; and you both said those should be on the list
21 of risk factors, right?

22 A. I don't know his list. I would agree.

23 Q. Okay. All right. So let's focus on Roundup for just a
24 few minutes.

25 You agree, Dr. Levine, that when you are trying to

1 determine the cause, that you want to consider all the risk
2 factors?

3 **A.** Correct.

4 **Q.** Okay. And in this situation you did not consider Roundup
5 as a risk factor, right?

6 **A.** Correct.

7 **Q.** And if the jury finds that Roundup is a risk factor for
8 non-Hodgkin's lymphoma, your list of risk factors would be
9 incomplete?

10 **A.** I have a list on mine which is idiopathic, and the
11 idiopathic is something I cannot exclude no matter what.

12 **Q.** Right. But your list does not include Roundup, so it
13 would be incomplete, correct?

14 **A.** If the jury said that the Roundup was the cause and my
15 list did not have it, then my list would be incomplete as it
16 related to what the jury said, yes.

17 **Q.** So you brought up idiopathic, and I just want to touch on
18 that. Are you saying to this jury that Mr. Hardeman's
19 non-Hodgkin's lymphoma was caused by hepatitis B and
20 hepatitis C or are you saying that it is idiopathic; meaning
21 you don't know?

22 **A.** I'm saying that the most significant contributory cause is
23 hepatitis C because of those 39 years where a mutation could
24 have occurred. I think the secondary significant cause could
25 be hepatitis B although I don't have enough information about

1 Mr. Hardeman's hepatitis B infection, per se, to make that
2 Number 1.

3 And Number 3, under no circumstance can I exclude
4 idiopathic. You can't tell the difference under the
5 microscope. So the most likely cause, C; second most likely
6 cause, B; idiopathic, I cannot exclude. It could easily be
7 idiopathic. That is the most common of all of these in diffuse
8 large B-cell.

9 Q. So should I -- let me make sure I have got this right.

10 So for hepatitis B and C, it is your opinion those are
11 most likely causes?

12 A. Hepatitis C is the most likely cause. Hepatitis B is the
13 second most likely cause.

14 Q. Okay. Can I just say here most likely causes then?

15 A. Okay.

16 Q. Is that okay?

17 A. Sure.

18 Q. Okay. And that idiopathic -- what did you say on that?

19 A. I said I can't exclude idiopathic in anything that has
20 been shown as far as his pathology, lab tests, biopsy.

21 Q. Okay. And that is because there is no test or marker that
22 tells us that Roundup causes non-Hodgkin's lymphoma; is that
23 right?

24 A. That's true.

25 Q. You spoke a lot about smoking cigarettes -- smoking

SIDEBAR

1 causing lung cancer earlier. Do you recall that?

2 A. Yes.

3 Q. And just like with Roundup, do you agree that there is no
4 test or marker that we can use for smoking to say this person's
5 lung cancer was caused by cigarette smoking?

6 A. There are certain characteristics of smoking of
7 tobacco-related lung cancer that are quite unique, and I'm not
8 sure that that is true, what you just said.

9 Q. Well, you agree that smoking causes lung cancer?

10 A. Some kinds of lung cancer, not all.

11 Q. And that -- you agree that when you are trying to
12 determine the cause of someone's lung cancer, that you have to
13 consider how much they smoked?

14 MR. STEKLOFF: Your Honor, I'm objecting under motions
15 in limine.

16 THE COURT: Sustained.

17 MS. MOORE: Your Honor, can we have a sidebar?

18 THE COURT: Sure.

19 (The following proceedings were heard at the sidebar:)

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]

1 [REDACTED]
2 [REDACTED] [REDACTED]
3 [REDACTED] [REDACTED]
4 [REDACTED] [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED] [REDACTED]
8 [REDACTED]
9 [REDACTED] [REDACTED]
10 [REDACTED]
11 [REDACTED] [REDACTED]
12 [REDACTED] [REDACTED]

13 (Proceedings were heard in the presence of the jury:)

14 **BY MS. MOORE**

15 **Q.** Dr. Levine, is there any kind of -- can you tell from the
16 pathology whether someone smoked cigarettes when you are trying
17 to determine the cause of someone's lung cancer?

18 **MR. STEKLOFF:** Objection, Your Honor.

19 **THE COURT:** Sustained.

20 **BY MS. MOORE**

21 **Q.** Do you agree that when you are trying to determine the
22 cause of someone's cancer, that you have to consider all of the
23 evidence. You can't just say, Well, if there is no test, we
24 don't know?

25 **A.** I guess I'm not sure what you are saying. Repeat it

1 again. Sorry.

2 Q. No problem. No problem.

3 When -- I just want to focus on idiopathic.

4 A. Okay.

5 Q. Okay. If you know the cause -- or you have a likely cause
6 of someone's cancer, it wouldn't be right to say it is
7 idiopathic; is that correct?

8 A. If you know what the cause is, it is not right to say
9 idiopathic, but at a certain point you can't -- there is
10 nothing in that idiopathic category that allows you to exclude
11 it. You can't exclude it.

12 Q. But you would only say something is idiopathic when you
13 don't know the cause, right?

14 A. Yes.

15 Q. Okay. And in this case it is your opinion that the cause
16 is either hepatitis B or hepatitis C?

17 A. And --

18 MR. STEKLOFF: Objection, Your Honor. This misstates
19 her testimony.

20 THE COURT: Sustained.

21 BY MS. MOORE

22 Q. Your opinion is that the most likely causes are
23 hepatitis B and hepatitis C, correct?

24 A. In my opinion the most likely contributing factor here is
25 hepatitis C. The second most likely is hepatitis B. But I

LEVINE - REDIRECT / STEKLOFF

1 can't exclude that this could be idiopathic because under the
2 microscope I can't tell.

3 Q. We have made some references today to Dr. Weisenburger.
4 And you know Dr. Weisenburger, right?

5 A. I do.

6 Q. Okay. And do you consider him to be a good doctor?

7 A. He is a good pathologist. He is an excellent pathologist.
8 I hired him.

9 MS. MOORE: Okay. I have no more questions. Thank
10 you, Dr. Levine.

11 THE WITNESS: Thank you.

12 THE COURT: Any redirect?

13 MR. STEKLOFF: Yes, Your Honor. May I please have the
14 ELMO?

15 REDIRECT EXAMINATION

16 BY MR. STEKLOFF

17 Q. Dr. Levine, good afternoon.

18 A. Good afternoon.

19 Q. First of all, I had asked you this on direct -- but just
20 to clarify -- did you review Dr. Weisenburger's testimony about
21 all of the hepatitis C studies you were just walked through?

22 A. Yes, I did.

23 Q. And did you, in fact, also review those studies?

24 A. Yes, I did.

25 Q. Did any of them change the opinions you have been offering

1 to the jury today?

2 **A.** No, not at all.

3 **Q.** Okay. So as fast as humanly possible, I just want to
4 briefly touch on the studies. Okay? I'm going to go in
5 reverse order.

6 This is Exhibit 1599, the Zuckerman study. Do you see
7 that?

8 **A.** I do.

9 **Q.** Do you see in the title it says, The effect of antiviral
10 therapy on 14;18 translocation and immunoglobulin gene
11 rearrangement in patients with chronic hepatitis C virus
12 infection?

13 **A.** I do.

14 **Q.** Does that have anything to do with Mr. Hardeman and
15 diffuse large B-cell lymphoma?

16 **A.** Not at all.

17 **Q.** So did this article change your opinion in any way?

18 **A.** Not at all. Has nothing to do with the case under
19 consideration today.

20 **Q.** Okay. Let's look at the next one, Giannelli. The title
21 is: Effect of antiviral treatment in patients with chronic HCV
22 infection and T-(14;18) translocation. Do you see that?

23 **A.** Yes, I do.

24 **Q.** Does that translocation have anything to do with
25 Mr. Hardeman and diffuse large B-cell lymphoma?

1 A. No. This was not a translocation that he had. These
2 patients did not have lymphoma. He has diffuse large B-cell
3 lymphoma. This doesn't speak to him at all.

4 Q. Did this change your opinions in any way?

5 A. No, not at all.

6 Q. Let's look at the next article, the Su article. The title
7 is: Early antiviral therapy reduces the risk of lymphoma in
8 patients with chronic hepatitis C infection.

9 Do you see that?

10 A. I do.

11 Q. And what -- we have heard that Mr. Hardeman was exposed to
12 hepatitis C in 1966, correct?

13 A. Yes.

14 Q. And that he had antiviral therapy starting in 2005,
15 correct?

16 A. Correct.

17 Q. So did he have early antiviral therapy?

18 A. No, he did not. He had 39 years of active HCV infection,
19 which would have allowed mutations to occur.

20 Q. Did this study change your opinions in any way?

21 A. Not at all.

22 Q. Let's look at the next one, the Omland study. Do you
23 recall seeing this study from Dr. Omland and others?

24 A. I do.

25 Q. Do you recall being shown one of the graphs here on this

1 table?

2 A. Yes.

3 Could you show me the tab number on that one?

4 Q. Of course. This is tab 917.

5 Dr. Levine, tell me when you are ready.

6 A. Not quite yet. Just one moment.

7 Q. Okay. No problem.

8 (Whereupon, a brief pause was had.)

9 THE WITNESS: Yes, I'm ready.

10 BY MR. STEKLOFF

11 Q. You were shown this table here about non-Hodgkin's
12 lymphoma, correct?

13 A. Yes.

14 Q. Okay. I want to show you the next page. And what it says
15 here, the author said, Similarly, no models were fitted for
16 non-Hodgkin's lymphoma as only five cases occurred in the HCV
17 RNA positive patients and no cases occurred in HCV RNA negative
18 patients. The results of Gray's test -- that is a statistical
19 test about significance, right?

20 A. Yes.

21 Q. -- of the difference in the cumulative incidence of NHL
22 between the two HCV patient groups shown in figure 1 gave a
23 p-value of .09, indicating that our findings could be due to
24 chance.

25 Do you see that?

1 A. That's the point. These numbers were not significant
2 statistically. They were not valid statistically. As a
3 clinician, you can't deal with information of that sort. He
4 says These findings could be due to chance alone. And I'm
5 going to have to believe that as a clinician.

6 Q. So did this article change your opinions in any way?

7 A. No, it did not.

8 Q. Let's look at the next one, the Nieters article. Do you
9 recall being shown this article and being shown the title?

10 A. Yes.

11 Q. And then you said that you wanted to look at table 4. Do
12 you recall that?

13 A. Yes.

14 Q. So let's show table 4. And on table 4 I think you were
15 referring to this column here, anti-HCV or HCV RNA positive,
16 correct?

17 A. Correct.

18 Q. So did that group include people who -- some people who
19 had the antibody but not the active virus?

20 A. Absolutely. That's what it says.

21 Q. Or there were some people in that group who did, in fact,
22 have the active virus, correct?

23 A. Correct.

24 Q. But nonetheless in that group there was an odds ratio of
25 2.19 that was statistically significant, correct?

1 **A.** Correct.

2 **MS. MOORE:** Objection. Leading, Your Honor.

3 **THE COURT:** Sustained.

4 **BY MR. STEKLOFF**

5 **Q.** What was the odds ratio, and was it statistically
6 significant?

7 **A.** The odds ratio was 2.19. It crossed over 1. In other
8 words, this is statistically significant. There was an
9 increase, a statistical increase, of specific diffuse large
10 B-cell lymphoma among people who had antibody to HCV.

11 **Q.** And so did this article change the opinions that you've
12 offered to the jury?

13 **A.** No, it did not.

14 **Q.** Let's look at the next one, Kawamura. And do you recall
15 being shown this study?

16 **A.** Yes.

17 **Q.** And then you were shown a table with 15 years. Do you
18 recall that?

19 **A.** I do.

20 **Q.** And one of the things that you talked about was how long
21 the groups were followed. Do you recall that?

22 **A.** Yes.

23 **Q.** Okay. So let's look at that.

24 In this study did the authors write that the observation
25 period was significantly shorter in the Interferon group than

1 in the non-Interferon group, median 4.5 versus 14 years?

2 **A.** Yes. The average time in that study for patients with
3 lymphoma to develop lymphoma was 6.1 years, but the average
4 follow-up was only 4.5; and as I showed early, it takes years
5 and years for this to occur. Four and a half years is not --
6 it's not a fair comparison.

7 One group is followed 14 years. You're going to see a lot
8 of truth in there. One group is followed -- the treated group
9 followed only four years. Not enough time to see what the real
10 answer might be.

11 **Q.** Okay. So did this article change your opinion in any way?

12 **A.** No, it didn't.

13 **Q.** And then let's look at the last one, the Taborelli study,
14 the first one you were shown. Do you recall being shown this?

15 **A.** I do.

16 **Q.** And do you recall being shown this table that Mr. Hardeman
17 would have fit in this group? HCV, he had the core antibody,
18 he was anti-HCV positive but HCV RNA negative?

19 **A.** Correct.

20 **Q.** And do you see that there were 14 cases in the
21 non-Hodgkin's lymphoma group and 27 cases in the control group?

22 **A.** Yes, I do.

23 **Q.** And how does that impact your -- whether -- well, first of
24 all, does this study change your opinions in any way?

25 **A.** It does not because the numbers are just too small. You

1 need real numbers to see small results, and those are just too
2 small. Fourteen cases of lymphoma, you can't make a firm
3 conclusion on that.

4 Q. Okay. So you were asked a lot of questions about these
5 studies. Overall, in any way do you think these studies
6 demonstrate that Mr. Hardeman's non-Hodgkin's lymphoma may not
7 have been caused by hepatitis C?

8 A. None of them disprove the fact that this lymphoma could
9 easily have been caused by hepatitis C during the 39 years of
10 active infection.

11 Q. Okay. Now, I want to go to a different -- a slightly
12 different topic, it's related, and show you just a few of
13 Mr. Hardeman's medical records. Okay?

14 A. Okay.

15 Q. Now, you were asked questions, a lot of questions, about
16 his antiviral treatment and whether he was cured. Do you
17 recall that?

18 A. Yes.

19 Q. Okay.

20 A. Yes.

21 Q. And I think you referenced discussions that you relied
22 upon in the medical records between Dr. Ye and Mr. Hardeman;
23 correct?

24 A. Yes, I did.

25 Q. And do you remember being shown this exhibit from

1 February 19th, 2015, from Dr. Ye?

2 **A.** Yes.

3 **Q.** And I think we showed this on direct, but on cross were
4 you able to discuss again, when you were being asked these
5 questions, this section here on the back page where Dr. Ye
6 wrote (reading):

7 "We specifically discussed two additional concerns in
8 his case, and then one of those concerns was hepatitis B
9 and hepatitis C reactivation from rituximab" --

10 That was the medicine to treat his hepatitis B; correct?

11 **A.** Correct.

12 **Q.** (reading)

13 -- "and then will monitor both diseases through the
14 treatment."

15 Correct?

16 **A.** Correct.

17 **Q.** And so what does -- why did this -- or how did this impact
18 your opinions about whether there may have still been some
19 lingering hepatitis B or C in Mr. Hardeman's blood?

20 **A.** For all practical purposes, Dr. Ye believed that he had to
21 be worried about the possibility of latent quiet virus, both
22 hepatitis C and hepatitis B.

23 He said that the patient was cured, but that's not what he
24 did. And what he did was specifically, which I'm most
25 respectful for, specifically talked to the patient about his

1 concerns. And his first concern was that there may be
2 reactivation of hepatitis C or B. You can't reactivate a germ
3 unless the germ is in you. You can get a new infection maybe,
4 but you can't reactivate it unless it's there.

5 And so he's implying here -- I won't say that.

6 And so he is worried about the fact that there may be
7 latent quiet hepatitis B or C, and he has to be careful about
8 that. And so he's going to monitor the diseases carefully
9 looking at the liver enzymes and so forth, and he's also going
10 to treat the patient for hepatitis B so that it won't, quote,
11 "reactivate." It's not a matter of -- well, so that it won't
12 reactivate.

13 So, you know, the doctor uses a word "cure." On the other
14 hand, what he's doing here is saying, "I've got to be really
15 careful here. There is such a thing as occult hepatitis B."

16 **MS. MOORE:** Objection, Your Honor.

17 **THE WITNESS:** Okay.

18 **MS. MOORE:** I'm sorry, Dr. Levine.

19 **THE COURT:** Overruled.

20 **THE WITNESS:** You're right.

21 **BY MR. STEKLOFF:**

22 **Q.** It was overruled, so you can --

23 **A.** Yes -- oh. So he's acting on the knowledge that he has to
24 be concerned about those long-term viral infections that may be
25 occult and that may be reactivated because of the chemo --

SIDEBAR

1 because of the immune weakening due to the chemo.

2 Q. Now, you told us earlier that you reviewed Dr. Ye's
3 testimony; correct?

4 A. I did.

5 Q. I mean, based on this, do you have any disagreement with
6 what Dr. Ye said about this in his testimony?

7 A. No. I'm very respectful of him. He did a very nice job.

8 Q. Okay. Do you recall also being asked questions on
9 cross-examination about whether Mr. Hardeman was vaccinated for
10 hepatitis B?

11 A. Yes.

12 Q. And so I'd like to show you a record. This is
13 Exhibit 1023 at page 860.

14 MS. MOORE: No objection.

15 Well, Your Honor, can we have a sidebar?

16 THE COURT: Sure.

17 (The following proceedings were heard at the sidebar:)

18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]

25 (Pause in proceedings.)

Line	Text
1	[REDACTED]
2	[REDACTED]
3	[REDACTED]
4	[REDACTED]
5	[REDACTED]
6	[REDACTED]
7	[REDACTED]
8	[REDACTED]
9	[REDACTED]
10	[REDACTED]
11	[REDACTED]
12	[REDACTED]
13	[REDACTED]
14	[REDACTED]
15	[REDACTED]
16	[REDACTED]
17	[REDACTED]
18	[REDACTED]
19	[REDACTED]
20	[REDACTED]
21	[REDACTED]
22	[REDACTED]
23	[REDACTED]
24	[REDACTED]
25	[REDACTED]

1 [REDACTED] [REDACTED]
2 [REDACTED] [REDACTED]
3 [REDACTED]
4 [REDACTED] [REDACTED]
5 [REDACTED]
6 [REDACTED] [REDACTED]
7 [REDACTED] [REDACTED]

8 (The following proceedings were heard in open court:)

9 BY MR. STEKLOFF:

10 Q. Dr. Levine, do you recall being asked questions about
11 whether Mr. Hardeman had been vaccinated for hepatitis B?

12 A. Yes.

13 Q. And what is the -- so we've heard about the core antibody;
14 correct?

15 A. Correct.

16 Q. Is there something called the surface antibody?

17 A. Yes.

18 Q. And what is that?

19 A. The surface antibody is what the hepatitis B vaccine is
20 generated against. So that's the surface of the virus that
21 attaches to the liver cell and so forth, and the vaccine
22 specifically takes that and puts a phony hepatitis B surface
23 antigen. It puts a phony protein into the vaccine, and your
24 body sees that dead piece of surface hepatitis B and makes an
25 antibody to it because it's seen as foreign.

1 And so in a patient who's vaccinated, the only abnormality
2 on the blood test is antibody to the surface antigen; but if
3 there's antibody to the core, that means that virus actually --
4 the virus actually got into that patient. Mr. Hardeman had
5 core antibody, which meant he had been infected. He did not
6 have surface antigen positive so he -- maybe he was vaccinated,
7 I don't know, but if he was, it didn't take because if it had
8 been a good vaccine result, he would have had antibody to the
9 surface, and he didn't. And so his blood test was fully what
10 we expect with somebody who has had hepatitis B infection in
11 the past.

12 **Q.** And so have you seen medical records that corroborate that
13 he did not have that surface antibody that he would have had
14 had he been effectively vaccinated?

15 **A.** Yes.

16 **Q.** Okay. I just want to make a quick timeline.

17 **MR. STEKLOFF:** Ms. Moore, do you mind if I use one of
18 your pieces of paper, a clean piece of paper?

19 **MS. MOORE:** Sure.

20 **MR. STEKLOFF:** We can rip it off afterwards.

21 **MS. MOORE:** Sure. That's fine.

22 **MR. STEKLOFF:** I'm happy to do it.

23 **Q.** Okay. So we have 1966, the first exposure to hepatitis C;
24 correct?

25 **A.** By history, yes.

1 Q. Okay. And then we have 39 years until it's identified in
2 2005; correct?

3 A. Correct.

4 Q. Then he receives the antiviral treatment into 2006;
5 correct?

6 A. Correct.

7 Q. And his diagnosis of non-Hodgkin's lymphoma is in 2015;
8 correct?

9 A. Correct.

10 MS. MOORE: Your Honor, objection. These are all
11 leading questions.

12 THE COURT: I'll let you just draw your thing, and
13 then stop asking leading questions.

14 MR. STEKLOFF: Yes, Your Honor.

15 Q. Okay. I want you to assume -- let's put aside this entire
16 debate about whether he had occult or hidden hepatitis C or
17 hepatitis B during this time period. Okay? Let's assume that
18 he had no hepatitis B and no hepatitis C, absolutely none.
19 Okay?

20 A. Yes.

21 Q. Okay. Does that change your opinion in any way about the
22 most likely cause of his non-Hodgkin's lymphoma?

23 A. No, it does not. Diffuse large B-cell lymphoma, the
24 defect is a mutation. He had 39 years of active hepatitis C
25 that would have allowed a mutation to occur. He did have a

1 mutation in his lymphoma. It doesn't matter if he had no
2 hepatitis C or hepatitis B after 2005. He had it for 39 years.

3 Q. Okay. So this entire debate that we just heard for an
4 hour about whether he had some cells of hepatitis B or
5 hepatitis C from after 2005 and 2006, it doesn't matter at all?

6 A. It would have mattered if he had marginal zone lymphoma,
7 but he doesn't. He has diffuse large B-cell and so, no, it
8 doesn't matter at all.

9 Q. Okay. And you were asked on direct, I asked you --
10 sorry -- or you were asked on cross if there was evidence or
11 data about this; correct?

12 A. Evidence and data about?

13 Q. About your -- about what they called your theory of the 39
14 years.

15 A. Well, there are all kinds of experiments in the scientific
16 literature that have been shown -- mutations, the hepatitis C
17 has been able -- has been shown to be consistent, has what's
18 called a mutator phenotype that can just cause all these
19 mutations in our own DNA.

20 Q. And did we show two of those articles on direct?

21 A. Yes, we did.

22 Q. Okay. So let's look at this one again. This is the
23 Machida article, and you are one of the authors; correct?

24 A. Yes.

25 Q. And in this article you and your authors wrote (reading):

1 "We demonstrated here that acute and chronic
2 hepatitis C infection caused a 5- to 10-fold increase in
3 mutation frequency in Ig heavy chain, BCL-6, p53, and
4 beta-catenin genes of *in vitro* HCV-infected B cell lines
5 and HCV-associated peripheral blood mononuclear cells,
6 lymphomas, and HCCs."

7 Correct?

8 A. Yes.

9 Q. And how does that, what you demonstrated in this study,
10 relate to diffuse large B-cell lymphoma?

11 A. These are mutations which are often seen in diffuse large
12 B-cell lymphoma and mutations which Mr. Hardeman had.

13 Q. Okay. So let's pause for a moment there. I want to come
14 back to that.

15 Are we going to talk for a moment about the BCL-6
16 mutation?

17 A. Yes.

18 Q. Okay. In Mr. Hardeman?

19 A. Yes. His pathology report showed a BCL-6 mutation.

20 Q. Okay. And also did you and your colleagues write
21 (reading):

22 "These results indicate that HCV induces a mutator
23 phenotype and may transform cells by a hit-and-run
24 mechanism. This finding provides a mechanism of
25 oncogenesis for an RNA virus"?

1 A. Yes.

2 Q. And the hit-and-run mechanism, was that what you described
3 this morning for the jury?

4 A. That's exactly what I described.

5 Q. And that relates to diffuse large B-cell lymphoma?

6 A. That relates to diffuse large B-cell lymphoma, which is
7 Mr. Hardeman's lymphoma.

8 Q. And you and your colleagues, what was the date of this
9 article that you published?

10 A. 2004.

11 Q. Okay. Let's look at the next article we showed. Do you
12 recall discussing this article this morning by
13 Dr. Peveling-Oberhag and others?

14 A. Yes, I do.

15 Q. And did we show in part this chart here?

16 A. Yes.

17 Q. Okay. Does this actually show three different possible
18 mechanisms through which hepatitis C can cause different forms
19 of non-Hodgkin's lymphoma?

20 A. Yes.

21 Q. So let's talk first about this top one. Can you explain
22 what that shows to the jury?

23 A. Yes. That shows what I was showing on my own little chart
24 there, that certain kinds of tumors, marginal zone lymphoma,
25 requires the presence of active, living, activated, active HCV

1 in order for that tumor to develop and to continue. And so
2 it -- the virus attaches to the lock -- the key attaches to the
3 lock on the B-cell and the -- what happens is ongoing growth,
4 division of those B cells. And if you take away the virus by
5 SVR, as an example, if you decrease it or take it away, that
6 whole thing is going to stop.

7 But --

8 **Q.** You can go to the second one where the HCV looks like it's
9 entering the B-cell lymphoma.

10 **A.** Okay. This is more complicated, but basically the virus
11 gets in, causes all kinds of abnormalities based upon what its
12 proteins can do. It can cause problems directly into the DNA
13 by the virus itself or it can do indirectly with other -- other
14 kinds of mechanisms.

15 **Q.** And of these first two, is that what you have told the
16 jury occurred in Mr. Hardeman's case?

17 **A.** No. No. That's not with Mr. Hardeman.

18 **Q.** Okay. So let's look now at the last one. Is this the one
19 that you explained to the jury this morning would apply to
20 Mr. Hardeman's diffuse large B-cell lymphoma?

21 **A.** Yes. He had 39 years for one of those mutations to occur,
22 and at that point it doesn't really matter what happens to the
23 HCV. The mutation is there and time will tell whether that
24 will be a true cancer or not. In his case, it was.

25 **Q.** In fact, here it shows the HCV entering the cell, but does

1 it also then show the HCV exiting the cell?

2 **A.** Yes. We've shown that B-cell lymphoma cells, diffuse
3 large B-cell lymphomas, for example, can be, quote,
4 "productively infected" by HCV. In other words, the HCV gets
5 into the cell, the HIV [sic] actually divides in that lymphoma
6 cell. The HCV that comes out of that lymphoma cell, if you put
7 it into a test tube with normal B lymphocytes or liver cells
8 that have not been infected, that HCV virus from the lymphoma
9 cell will infect that new cell with hepatitis C.

10 So we have shown, and others have as well, that HCV can
11 infect the cell, can cause mutations in the cell, can divide in
12 the cell, leave the cell, and go and find -- infect some other
13 cells in the body.

14 **Q.** And with this explanation, does the antiviral therapy cure
15 or eliminate that mutation?

16 **A.** No. It won't do anything to that mutation.

17 **Q.** Okay. And I see here again this mutation BCL-6. Is that
18 what we just looked at in your article?

19 **A.** Yes.

20 **Q.** And also to be clear, was this article in 2013?

21 **A.** Yes.

22 **Q.** Okay. So have you reviewed Mr. Hardeman's pathology
23 report?

24 **A.** Yes, I have.

25 **Q.** And what, if anything, did that report say about whether

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1 Mr. Hardeman had BCL-6 mutations?

2 **A.** He did have a mutation of BCL-6.

3 **Q.** Now, just to be clear, are you telling the jury that
4 because he had a BCL-6 mutation, you are certain that it was
5 the hepatitis C that caused his non-Hodgkin's lymphoma?

6 **MS. MOORE:** Your Honor, objection.

7 **THE COURT:** Overruled.

8 **MS. MOORE:** Leading.

9 **THE COURT:** Overruled.

10 **MS. MOORE:** It goes beyond the scope of her testimony.

11 **THE COURT:** Let's have a sidebar.

12 **MS. MOORE:** Thank you.

13 **THE COURT:** Actually, it's probably a good time for
14 our afternoon break. Why don't we take about five minutes.
15 We'll plan on resuming at five minutes to 2:00.

16 (Proceedings were heard out of the presence of the jury:)

17 **THE COURT:** Okay. You're free to step down if you
18 like, but it may be worth you listening to this.

19 I guess I wanted to pause because I don't understand the
20 objection. They are clearing up -- they're clarifying the very
21 thing that you wanted to make sure was clarified, and you
22 objected to that question, which seems to me runs the risk of
23 leaving a misimpression about BCL-6, precisely the
24 misimpression that you didn't want to leave, yet you're
25 objecting to the question.

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1 So because this may be somewhat important, I wanted to
2 just make sure I understand the nature of your objection to
3 that question.

4 **MS. MOORE:** That's fine, Your Honor. And I guess what
5 I heard -- and if I misheard, I apologize -- but what I had
6 heard is that he was asking her about cause.

7 **THE COURT:** About what?

8 **MS. MOORE:** About cause.

9 **THE COURT:** He was clarifying -- he was asking a
10 question that was designed to clarify that you cannot tell from
11 the pathology that hep C is the cause. So I don't understand
12 your objection.

13 **MS. MOORE:** He says (reading):

14 "Just to be clear, are you telling the jury that
15 because he had a BCL-6 mutation, you are certain that it
16 was the hep C that caused his non-Hodgkin's lymphoma?"
17 That's why I objected.

18 **THE COURT:** Right, but she's going to say "no" to that
19 question.

20 **MS. MOORE:** I mean, I thought the way he would ask the
21 question, Your Honor, and this was my concern, was that it
22 would be "You cannot tell from the BCL-6 mutation whether it
23 causes..." And I think the way he asked it, that's what I was
24 concerned about. It made it sound like --

25 **THE COURT:** Now I understand. So that is a fair

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1 point. That is a fair point.

2 **MR. STEKLOFF:** Yes. I was intending to elicit a "no"
3 to my question.

4 **THE COURT:** Right. But even --

5 **MR. STEKLOFF:** I'm happy to reask it.

6 **MS. MOORE:** It implies that there is.

7 **THE COURT:** Yes.

8 **MR. STEKLOFF:** Okay.

9 **THE COURT:** But even with a "no," the way you asked
10 the question is actually not right. I mean, because you
11 said -- you said "Does the pathology make you certain that the
12 hep C caused the non-Hodgkin's lymphoma?" Even if the answer
13 to that is "no," it leaves a misimpression that more likely
14 than not -- the pathology makes you think more likely than not
15 that it caused -- that the hep C caused the non-Hodgkin's
16 lymphoma. So that actually is -- which is why I wanted to take
17 a timeout --

18 **MS. MOORE:** Thank you, Your Honor.

19 **THE COURT:** -- because I know this is important. So
20 you didn't ask the question fairly, I think.

21 **MR. STEKLOFF:** And I want to ask the right question.
22 So what I would propose is: Dr. Levine, you cannot tell from
23 that BCL-6 mutation that hepatitis C was the cause of
24 Mr. Hardeman's non-Hodgkin's lymphoma?

25 **MS. MOORE:** And, Your Honor, I would ask that there be

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1 a curative instruction that that question and answer -- that
2 question be struck.

3 **THE COURT:** Well, I'll just -- I'll sustain the
4 objection. When the jury comes back, I'll say "The previous
5 question was sustained. Do you want to resume?"

6 **MS. MOORE:** Okay. Thank you, Your Honor.

7 **THE COURT:** Okay.

8 **THE WITNESS:** Can I ask something?

9 **THE COURT:** Sure.

10 **THE WITNESS:** Could he ask -- I mean, just to get to
11 the truth of this, could he ask: Is the BCL-6 mutation
12 specific to hepatitis C? My answer is no. Doesn't that
13 clarify it?

14 **MS. MOORE:** Yeah.

15 **THE COURT:** I mean, either the way he proposed it or
16 the way you just proposed it, either one of those I think is
17 appropriate.

18 **MR. STEKLOFF:** Okay.

19 **THE COURT:** Okay. Anything else?

20 **MS. MOORE:** No, Your Honor.

21 **THE COURT:** All right.

22 **MS. MOORE:** What time are we supposed to be back?

23 **THE COURT:** Let's take, you know, about five minutes.

24 **MS. MOORE:** Okay. Thank you.

25 (Recess taken at 1:54 p.m.)

LEVINE - REDIRECT / STEKLOFF

1 (Proceedings resumed at 2:00 p.m.)

2 (Proceedings were heard out of the presence of the jury:)

3 **THE COURT:** Okay. Bring them in.

4 (Proceedings were heard in the presence of the jury:)

5 **THE COURT:** Okay. You can resume.

6 And I believe there was an objection pending before the
7 break. That objection is sustained. You can resume.

8 **MR. STEKLOFF:** Thank you, Your Honor.

9 **Q.** Good afternoon again, Dr. Levine. Just a few more
10 questions.

11 So I just want to follow-up on that BCL-6 mutation that
12 you were just talking about.

13 **A.** Yes.

14 **Q.** And is that BCL-6 mutation specific to hepatitis C?

15 **A.** No, it is not.

16 **Q.** It can occur outside the presence of hepatitis C?

17 **A.** It can occur in idiopathic cases, as well it can occur
18 outside of hepatitis C, but it clearly is seen in diffuse large
19 B-cell lymphoma.

20 **Q.** Okay. So I want to shift topics on the last topic I want
21 to cover. And do you recall being asked and having this chart
22 created --

23 **A.** Yes.

24 **Q.** -- and then being asked questions about the fact that you
25 didn't put Roundup on the chart? Do you recall that?

1 **A.** I do recall that.

2 **Q.** Okay. First of all, going back to this morning, have you
3 ever used Dr. Weisenburger's differential method to determine
4 the cause of one of your patient's non-Hodgkin's lymphoma?

5 **A.** No, I haven't.

6 **Q.** And now let's talk about Roundup. Did you review all of
7 the published epidemiology regarding Roundup or glyphosate and
8 non-Hodgkin's lymphoma?

9 **A.** Yes, I did.

10 **Q.** And based on that review, in your opinion is Roundup or
11 glyphosate a cause of non-Hodgkin's lymphoma?

12 **A.** No.

13 **Q.** Did you provide that opinion in the expert report that you
14 prepared for this case?

15 **A.** Yes, I did.

16 **Q.** And based on that opinion, is that why you didn't include
17 Roundup as a potential risk factor for Mr. Hardeman?

18 **A.** Exactly.

19 **Q.** And these opinions that you're offering about Roundup and
20 the fact that you don't believe it is not -- you don't believe
21 it is a cause of non-Hodgkin's lymphoma, do you offer that
22 opinion to the same reasonable degree of medical certainty that
23 you discussed earlier?

24 **A.** Could you ask that again?

25 **Q.** Sure.

1 You just told us that you don't believe Roundup is
2 associated with non-Hodgkin's lymphoma; correct?

3 **A.** Correct.

4 **Q.** Do you offer that opinion just like all the other ones
5 that you've offered to a reasonable degree of medical
6 certainty?

7 **A.** Absolutely. To patients, to doctors if it comes up, yes.

8 **MR. STEKLOFF:** Okay. I have no further questions,
9 Your Honor.

10 **THE COURT:** Okay.

11 **MS. MOORE:** Your Honor, just a couple of questions.

12 **THE COURT:** Sure.

13 **RECROSS-EXAMINATION**

14 **BY MS. MOORE:**

15 **Q.** Dr. Levine, I just want to clear something up. You were
16 asked some questions about a BCL-6 mutation.

17 **A.** Yes.

18 **Q.** Do you recall that? Is the BCL-6 mutation specific to
19 hepatitis C?

20 **A.** It is not specific to hepatitis C. It is very commonly
21 seen in diffuse large B-cell lymphoma.

22 **Q.** In fact, it's one of the most common translocations -- I'm
23 sorry -- most common mutations that you see in DLBCL?

24 **A.** Absolutely true, and he had it.

25 **Q.** Okay. And so, in other words, you could have a person

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1 who's diagnosed with diffuse large B-cell lymphoma and have the
2 BCL-6 on their pathology and they may not have hepatitis C?

3 **A.** Yes. That's why I cannot exclude idiopathic.

4 **MS. MOORE:** Okay. Thank you. Those are all my
5 questions.

6 **THE COURT:** Okay. You can step down.

7 **THE WITNESS:** Thank you very much.

8 **THE COURT:** Thank you.

9 (Witness excused.)

10 **THE COURT:** And do you wish to call your next witness?

11 **MR. KILARU:** Yes, Your Honor. We call Dr. Daniel
12 Arber, and need to set up briefly.

13 **THE COURT:** Sure.

14 **MR. KILARU:** Thanks.

15 (Pause in proceedings.)

16 **MR. KILARU:** Your Honor, may I pass these up?

17 **THE COURT:** Thank you.

18 (Pause in proceedings.)

19 **THE CLERK:** Please remain standing and raise your
20 right hand.

21 **DANIEL ARBER,**

22 called as a witness for the Defendant, having been duly sworn,
23 testified as follows:

24 **THE WITNESS:** Yes.

25 **THE CLERK:** Thank you. Please be seated.

ARBER - DIRECT / KILARU

1 And for the record, please state your first and last name
2 and spell both of them.

3 **THE WITNESS:** Daniel, D-A-N-I-E-L, Arber, A-R-B-E-R.

4 **THE CLERK:** Thank you.

5 **MR. KILARU:** Doctor, can I trade binders with you?
6 There's one back there I'll grab too if that's okay. Thank
7 you.

8 (Pause in proceedings.)

9 **MR. KILARU:** Your Honor, we have some slides that
10 we've shown to opposing counsel. There's no objection, so we'd
11 ask to publish those as well?

12 **THE COURT:** Sure.

13 **DIRECT EXAMINATION**

14 **BY MR. KILARU:**

15 **Q.** Good afternoon.

16 **A.** Hi.

17 **Q.** Could you please introduce yourself to the jury and tell
18 them a little bit about yourself?

19 **A.** My name is Daniel Arber. I'm a pathologist at the
20 University of Chicago.

21 **Q.** And the jury has heard a little bit about this before, but
22 could you tell them in your own words what pathology is?

23 **A.** Sure. Pathology in the broadest sense is the study of
24 disease. As a medical specialty, we oversee the running of the
25 laboratories and also any type of tissue biopsy. So any

1 patient that has a biopsy specimen comes and is reviewed and
2 interpreted by a pathologist, and any type of blood test or
3 urine test or any type of other test that runs through the labs
4 is overseen by a pathologist.

5 Q. And, Doctor, in your experience as a pathologist, have you
6 ever diagnosed a patient with non-Hodgkin's lymphoma?

7 A. Yes. I frequently diagnose non-Hodgkin's lymphoma.

8 Q. Do you have a sense of how many times you've done that?

9 A. Oh, thousands of times.

10 Q. Let's start by talking a little bit about your background
11 before we get to your opinions in this case.

12 A. Okay.

13 Q. Where did you grow up?

14 A. I grew up in Texas outside of Houston.

15 Q. And we heard that you're a doctor. What made you decide
16 you wanted to go to medical school?

17 A. Well, my father was an engineer and I actually was very
18 good at math, and I struggled more with science but it was more
19 challenging so I thought I would try that. And I really
20 enjoyed medicine, so that's what I chose.

21 Q. We'll start with this slide here. Could you tell the jury
22 where you went to medical school?

23 A. I went to medical school at the University of Texas Health
24 Science Center in San Antonio, Texas.

25 Q. And did you decide when you were there that you wanted to

1 become a pathologist?

2 **A.** I was thinking about it, but I really couldn't decide so I
3 went ahead and did a clinical internship for a year to help
4 give me more time.

5 **Q.** And where did you do that internship?

6 **A.** I did that in Monroe, Louisiana, at one of the charity
7 hospitals.

8 **Q.** Doctor, what did you do during that year at the charity
9 hospital?

10 **A.** It was called a rotating internship. So I'd spend months
11 doing internal medicine, surgery, pediatrics, obstetrics, and
12 emergency medicine.

13 **Q.** Were you spending that time treating patients?

14 **A.** Yes. It was 100 percent taking care of patients.

15 **Q.** And, Doctor, what about that internship made you want to
16 go into the field of pathology?

17 **A.** Well, I really enjoyed clinical medicine and dealing with
18 patients, but I found that the most interesting patients always
19 had a biopsy or some exotic test, and that you got a really
20 good concentration of very interesting and challenging cases in
21 that -- in the pathology area so I decided to do a residency in
22 that.

23 **Q.** And could you tell the jury how pathology helps with
24 diagnosing and treating patients?

25 **A.** Sure. So we oversee all laboratory tests, which are

1 really critical for making a diagnosis, but particularly we
2 interpret all of the biopsy specimens. And so we interpret
3 things as infections or even make diagnoses of cancer and
4 classify them so that the treating physician knows exactly what
5 the diagnosis is, what the prognosis is, so they can determine
6 the appropriate therapy.

7 **Q.** And, Doctor, did you pursue training in pathology after
8 you finished that internship?

9 **A.** Yes.

10 **Q.** Let's go to that. What kind of training did you get?

11 **A.** So I did a residency that was combined in anatomic
12 pathology and clinical pathology at the Scott & White Clinic,
13 where anatomic pathology covers the more tissue biopsy and
14 clinical pathology more the blood and lab test work.

15 **Q.** And did you find that the clinical work you'd done before
16 was helpful in your further training as a pathologist?

17 **A.** Yes. It's very helpful. Most pathologists these days
18 don't do clinical training, but it does help us understand what
19 the need is. When someone does a biopsy, we understand, I
20 think, better what -- what questions are being asked when they
21 submit a specimen.

22 **Q.** And, Doctor, after you finished your residency, what was
23 the next step in your career?

24 **A.** So I moved to the City of Hope and did a fellowship in
25 hematopathology for two years.

1 Q. Doctor, what is hematopathology?

2 A. So it's pathology of the hematopoietic system. So it's
3 looking at diseases or abnormalities of blood, bone marrow, and
4 lymph nodes.

5 Q. Does that include conditions like lymphoma and
6 non-Hodgkin's lymphoma?

7 A. Yes, it does.

8 Q. And, Doctor, we've heard a fair bit about the City of Hope
9 over the last few days. Do you know Dr. Levine and
10 Dr. Weisenburger?

11 A. I do. I did not overlap with them at City of Hope, but I
12 do know them.

13 Q. Okay. Doctor, when you were finished with your training,
14 did you get any Board certifications in the field of pathology?

15 A. Yes. I'm Board certified in anatomic pathology, clinical
16 pathology, and hematology, which in pathology terms is
17 hematopathology.

18 Q. And could you tell the jury, what does it mean to be Board
19 certified? Why get that credential?

20 A. Well, first of all, to be Board certified, you have to do
21 an accredited training program and then you have to pass a
22 fairly rigorous examination to be Board certified, and many
23 institutions now require Board certification to be able to have
24 privileges to practice in that hospital.

25 Q. And, Doctor, as we can see on the slide, it says you have

1 three Board certifications. Why did you pursue three different
2 Board certifications?

3 **A.** Well, the anatomic pathology and clinical pathology are
4 ones that help cover all aspects of pathology; and then if you
5 really want to practice a subspecialty and there's Board
6 certification available, then generally you now get certified
7 in that, and I wanted to practice hematopathology.

8 **Q.** Now, Doctor, where did you start your career after your
9 training was complete?

10 **A.** I went back to the Scott & White Clinic where I'd done my
11 residency and was on the faculty there for a year and a half.

12 **Q.** And where did you go after that?

13 **A.** Then I went back to the City of Hope for a staff
14 pathologist position for eight years.

15 **Q.** And, Doctor, why did you decide to leave the City of Hope
16 after eight years?

17 **A.** Well, City of Hope is really an outstanding institution,
18 but it was a small place and it was a small department of
19 pathology, and I was already the director of hematopathology
20 there. And Stanford offered me a full professor position, and
21 I thought it was just a better opportunity where I'd see more
22 variety of cases and have, I think, opportunity to teach
23 medical students and be involved with residents training, which
24 I couldn't do at City of Hope.

25 **Q.** Well, let's talk about your time at Stanford. How did

1 your career progress once you got there?

2 **A.** Well, I was hired as a professor to run the hematology
3 laboratories, which is where the basic blood tests like CBCs
4 are done; and over time I was asked to run all the
5 laboratories, including the anatomic pathology area, and
6 eventually made the vice chair for clinical services.

7 **Q.** Now, Doctor, I can see on the slide that it says you're
8 the Ronald F. -- you were the Ronald F. Dorfman Professor in
9 Hematopathology. What does it mean that you had that position?

10 **A.** So once you're a full professor, you really can't get
11 promoted again so to honor some faculty, you get named
12 professorships. Dr. Dorfman was a very well-known
13 hematopathologist at Stanford, and so I was very fortunate to
14 get the named professorship in his honor.

15 **Q.** And was that professorship different from some of the
16 other endowed professorships on campus?

17 **A.** Yes. Most named professorships are named after the person
18 who donated the money, not someone that practices medicine. So
19 it's a real honor to get one that is named after someone in
20 your field.

21 **Q.** And you also said that you were the vice chair for
22 clinical services. What did that mean?

23 **A.** So it had a number of responsibilities. I held the
24 license for all the laboratories, which is a regulation that a
25 physician has to hold all licenses for laboratories with

1 hospitals. And I also oversaw all the clinical faculty in the
2 department, which were about 50 or so faculty members.

3 Q. And, Doctor, did you continue to teach while you were at
4 Stanford?

5 A. Yes. I taught medical students, residents, and fellows.

6 Q. And I see there's some teaching awards listed on this
7 slide. Could you tell the jury a little bit about those?

8 A. So I received the Stanford School of Medicine Teaching
9 Excellence Award, which -- for two years in a row, and that's
10 awarded by the medical students at Stanford. And then the
11 Clinical Pathology Senior Faculty Teaching Award is an award
12 they give each year. The residents in pathology give that one.

13 Q. Well, Doctor, why did you decide in 2016 to leave Stanford
14 and go back east to Chicago?

15 A. Well, I really enjoyed working at Stanford, it's a
16 beautiful place and an excellent department, but I was offered
17 a chair position at University of Chicago, which is also an
18 excellent university, and it gave me a chance to not just be
19 over the clinical aspects of the department but the research
20 and education aspects of the department. So I thought I would
21 take that opportunity.

22 Q. Before we move on, I forgot to ask one thing, which is,
23 did you continue to treat patients and diagnose patients
24 throughout your time at Stanford?

25 A. Yes. Through my whole career, I have rotated on the

1 hematopathology service and diagnosed patients on that service.

2 Q. Well, turning, then, to Chicago, what are your
3 responsibilities as the chair of the Pathology Department?

4 A. Well, there are a number of administrative
5 responsibilities. I also oversee all the clinical aspects of
6 the department like I did at Stanford, but now I'm over the
7 basic science research component and the education component of
8 the department.

9 Q. And do you still teach at Chicago?

10 A. Yes.

11 Q. How often?

12 A. I teach medical -- I teach a couple of medical student
13 classes, but I mainly teach residents and fellows now.

14 Q. And, Doctor, you said a moment ago that you've treated and
15 diagnosed patients throughout your career. Now, at Chicago
16 are -- the patients that you treat and diagnose, are they just
17 patients who come to the hospital in the Chicago system?

18 A. No, it's not just those. I do rotate on the regular
19 hematopathology service, which are patients at the University
20 of Chicago, and I also get consultation cases from -- mostly
21 from pathologists across the country.

22 Q. And do you have any knowledge of how those cases end up
23 getting referred to you?

24 A. Well, some are from people that have attended lectures
25 that I've given or read a book chapter or a paper that I've

1 written on the topic that they're struggling with, and they'll
2 send the case to me to help them with the diagnosis.

3 Q. And do they tend to send you the easy cases or the hard
4 cases?

5 A. They only send the hard cases because pathologists are
6 well trained, and so they -- it's usually something where they
7 have a -- they've gotten to a point that they can't really make
8 a decision about a diagnosis so they send it.

9 Q. Now, Doctor, a few minutes ago you mentioned something
10 called basic science research, and I think we heard last week
11 that that's the type of research that Dr. Weisenburger does as
12 well. Could you tell the jury what that is?

13 A. So as the name implies, it goes -- it's more science
14 based. It's not as much as patient-based research, so it
15 includes animal studies, transferring genes to animals to see
16 what happens, looking at cell cultures to see what happens in a
17 petri dish, and that's opposed to more translational research
18 that often is more clinical and directly patient related.

19 Q. Well, what type of research do you do?

20 A. Mine is almost entirely clinical and translational, where
21 I -- my focus is on the diagnosis of hematopoietic tumors and
22 determining prognosis based on features that a pathologist will
23 see often under the microscope or doing other testing.

24 Q. Does your work typically draw from actual patients who are
25 undergoing treatment?

1 **A.** Yes. It's almost -- it's all patient sample testing, yes.

2 **Q.** Well, let's talk a little bit about some of your research.
3 How much have you published within the field of pathology?

4 **A.** I have about 230 peer-reviewed papers, I have nine books,
5 and I have just under 80 book chapters I've written.

6 **Q.** And have you served as a reviewer for other people's
7 articles?

8 **A.** Oh, yes.

9 **Q.** And, Doctor, are there any publications that you're
10 particularly proud of?

11 **A.** Well, I did a lot of work with the World Health
12 Organization. So the World Health Organization or WHO writes
13 the classifications of diseases, and so in 2008 and 2016 were
14 the last two editions for hematopoietic tumors, and I wrote
15 many of the chapters for those books and was very actively
16 involved in the 2016 version.

17 That also resulted in a publication in the journal *Blood*
18 that summarized the classification. And both of those actually
19 had papers that summarized the classification that were I think
20 probably my top publications.

21 **Q.** And do you have a sense of whether those two publications
22 are used by doctors in practice?

23 **A.** I have a good sense of that. They've been cited thousands
24 of times so that means that when other people are writing
25 papers on topics, they use that as a reference. And so those

1 papers are very highly referenced because the WHO
2 classification is pretty much universally accepted.

3 Q. Well, Doctor, let's spend a few minutes to talk about the
4 work that you did in this case in connection with Mr. Hardeman.

5 A. Okay.

6 Q. What questions were you trying to answer once you became
7 involved?

8 A. So I was asked to look at his medical records and his
9 pathology material to determine -- confirm the diagnosis and to
10 see if I had any -- if I saw any features that may suggest the
11 cause of his lymphoma.

12 Q. And what materials in particular did you review when you
13 were forming your opinions?

14 A. I did look at Mr. Hardeman's medical record. I received
15 the pathology slides from a number of different specimens and
16 reviewed those.

17 Q. And, Doctor, what do you mean when you say you looked at
18 the pathology slides?

19 A. So whenever you have a biopsy, the tissue is processed and
20 slides are cut from it, and I received those original slides as
21 well as the additional ancillary studies that were done to help
22 come to the diagnosis.

23 Q. So did you have an opportunity to look at Mr. Hardeman's
24 actual tumor?

25 A. Yes.

1 Q. And, Doctor, what other materials did you review? Did you
2 have a chance to look at medical records, anything like that?

3 A. Yes. I had all of his medical records.

4 Q. And did you have a chance to review any testimony from
5 either his doctors or Mr. Hardeman himself?

6 A. Yes. I reviewed his -- Mr. Hardeman's deposition and
7 depositions from his treating physicians.

8 Q. Now, Doctor, when you looked at those -- could you tell
9 the jury when it was that you looked at those pathology slides
10 you mentioned earlier?

11 A. Well, I think it was in late November, early December.

12 Q. Okay. Well, did you also have a chance in forming your
13 opinions to look at the reports and conclusions from
14 Dr. Weisenburger?

15 A. Yes. I have reviewed those.

16 Q. And do you know when he had a chance to look at the
17 pathology slides?

18 A. From his testimony, I believe it was a couple of weeks
19 ago.

20 Q. And you anticipated my next question, which was, did you
21 have a chance to look at the testimony that he provided to the
22 jury last week?

23 A. Yes.

24 Q. Okay. Let's spend a minute talking about non-Hodgkin's
25 lymphoma in particular and use your training in pathology to

1 maybe illuminate that a little bit.

2 **A.** Okay.

3 **Q.** I'll get to that in a second.

4 Doctor, what is lymphoma?

5 **A.** So lymphoma in the broadest sense is essentially cancer of
6 lymphocytes, and lymphocytes are a subset of the white blood
7 cells you have circulating in your body, and they -- and you
8 can break down lymphoma into two broad groups: One is
9 Hodgkin's disease, which is now called Hodgkin's lymphoma, and
10 the other is non-Hodgkin's lymphoma. And those were separated
11 because we originally thought they were two completely
12 different diseases that were unrelated. Now we know they're
13 both lymphomas arising from lymphocytes.

14 Non-Hodgkin's lymphoma is broken further down into B-cell
15 and T-cell types, and there are just dozens of subtypes of
16 non-Hodgkin's lymphoma.

17 **Q.** And, Doctor, did you bring some slides to help explain the
18 lymphatic system to the jury?

19 **A.** Yes.

20 **Q.** Let's start with the first one of those. What are we
21 looking at here, Doctor?

22 **A.** So this is a sketch of a human, and the green dots
23 represent lymph nodes throughout the body. So lymph nodes are
24 the site where lymphocytes can reside. They circulate in blood
25 but they also reside in lymph nodes. And these are the areas

1 of your body if you get an infection, you feel a lump where it
2 swells, that's a swollen lymph node.

3 And the lymphatic system parallels the blood vessel -- the
4 blood system in that it has little tubes or lymphatics that
5 connect these lymph nodes. Blood doesn't pass through those
6 but lymphocytes do, and they circulate throughout the body and
7 also will get into the blood and circulate.

8 Q. Doctor, you've mentioned the lymphocytes a few times. Do
9 you have a slide to help explain what those are?

10 A. Yes.

11 Q. Let's go to that. Can you walk the jury through what
12 we're seeing on the screen here?

13 A. Sure. There's two main categories of lymphocytes.
14 There's T cells and there's B cells. And T cells are the most
15 common in both your blood and in your tissues, and these are
16 cells that are less targeted. So the whole purpose of
17 lymphocytes -- well, the main purpose is to help fight off when
18 you have an infection or any type of foreign thing enters your
19 body.

20 T lymphocytes are a little less specific. They're already
21 honed and can attack different infections or antigens and help
22 kill them, but they're not specific to whatever that infection
23 is.

24 B cells are a lot less numerous in your body but, as I
25 mentioned, I think the majority of lymphomas are of B-cell

1 lineage. These cells also fight off viruses and bacteria and
2 other foreign things in your body, but it takes a little longer
3 for them to respond because they become very specialized
4 against the antigen or infection that you have.

5 **Q.** Now, what happens in these cells when someone gets
6 lymphoma?

7 **A.** Well, I'm going to focus mainly on the B cells because
8 that's, I think, relevant here and that's the vast majority of
9 lymphomas.

10 So the B cells, as they're becoming specialized against an
11 antigen, they reshuffle their DNA. And so every cell in your
12 body has the same DNA, but the DNA gets shuffled to be specific
13 for that cell type. And these cells reshuffle their DNA to
14 make proteins that are directed against the antigen that they
15 are trying to kill, and then they survive and multiply and then
16 go out and kill it all over your body. And that's when you get
17 immunity is when that happens.

18 So that takes a number of days. So if you get a cold, it
19 takes a number of days before your B cells can get activated
20 and start fighting back, and then it takes a few more days to
21 kill the virus or not get down to a point where you get over
22 your cold.

23 But if you got that exact virus again, they'd be ready
24 very quickly and fight it off quickly. You may not even
25 realize you're sick.

1 Q. Well, what happens -- what goes wrong in the case of a
2 patient who has lymphoma?

3 A. Well, this reshuffling process that makes the B cells very
4 specific just by its nature will result in abnormal
5 reshuffling, which can lead to a lymphoma. The vast majority
6 of times that reshuffling results in a cell that just dies off;
7 but on rare events, it will have a genetic defect that can go
8 on and lead to lymphoma. It doesn't always and you can detect
9 genetic events associated with lymphoma in normal people if you
10 look really, really hard, and presumably those cells just die
11 off, but every once in a while one of them starts dividing and
12 years later you develop lymphoma.

13 Q. Well, you mentioned years. How long does it take for
14 cancer to develop from one of those mutated cells to something
15 that you can actually diagnose?

16 A. Well, it certainly varies. Some cancers are more
17 aggressive than others, but you have to remember you're
18 starting with a single cell. That genetic event occurs in one
19 cell, and by the time you have detectable lymphoma in your
20 body, you have millions of cells. So it takes truly years in
21 most patients to get to the point from that one cell to the
22 time that you have clinical lymphoma.

23 Q. And we've heard that Mr. Hardeman had a specific type of
24 NHL called diffuse large B-cell lymphoma. Could you explain to
25 the jury what that looks like under the microscope?

1 **A.** Okay. So diffuse large B-cell lymphoma is the most common
2 lymphoma, and the name really describes it.

3 So when we look under the microscope, we are trained to
4 know what a normal lymph node looks like. It has a pattern
5 that is very typical. In diffuse large B-cell lymphoma, that
6 pattern is gone and there's a diffuse proliferation of cells
7 instead of nodules that we would expect in a normal lymph node.
8 So that's the diffuse part.

9 The cells are large so we realize they're bigger than
10 normal looking under the microscope, and then we do studies to
11 tell they're B cells. We can't tell by looking at the cells
12 whether they're B cells or T cells because they look the same
13 under the microscope on a routine slide. So if it's diffuse
14 and they're large and they're B cells, that's diffuse large
15 B-cell lymphoma.

16 **Q.** Well, Doctor, what causes -- I think we're done with the
17 slides.

18 What causes diffuse large B-cell lymphoma to develop?

19 **A.** Well, in -- the vast majority of cases are idiopathic,
20 meaning we don't know the cause. There are subsets of cases
21 that do have known causes. The most common are related to
22 immunodeficiency. So patients that have HIV are at risk for --
23 very high risk for getting lymphoma, patients who have had
24 organ transplants or are taking drugs that make them
25 immunodeficient will have a much higher risk for lymphoma, and

1 then certain infectious agents increase your risk for lymphoma,
2 both viral and bacterial.

3 Q. How often is it that you're able to determine a specific
4 cause for a patient's DLBCL?

5 A. From the pathologist's perspective of looking at the
6 slides, only about 10 percent of the time can we determine a
7 cause of the lymphoma.

8 Q. So what happens in the other 90 percent of cases?

9 A. Most are just generally considered to be idiopathic.

10 Q. Well, we've also heard a few times about this concept
11 called a risk factor. Within the field of pathology, what does
12 that phrase mean to you?

13 A. So there are certain things that put you at a little bit
14 higher risk of getting lymphoma or, you know, just a number of
15 diseases. There are risk factors for just about all diseases.
16 Some of them are things like age and sex and even race can be
17 risk factors for getting certain diseases because we know some
18 races have disease more commonly than others, but none of them
19 really are specifically defining of the disease.

20 Q. Well, in those 90 percent of cases, are there risk factors
21 present?

22 A. Yes.

23 Q. Well, if there's risk factors present, why aren't you able
24 to determine the cause of the patient's lymphoma?

25 A. Well, they're usually minor risk factors in that they're

1 increasing the risk by maybe 20 percent, something like that.
2 That doesn't mean that's the cause of their disease. So one of
3 the risk factors in non-Hodgkin's lymphoma is being a male, but
4 not all males get non-Hodgkin's lymphoma just because of their
5 sex. There are other things going on that can cause you to
6 have disease.

7 And we're constantly looking for -- looking at the biology
8 of lymphoma and all diseases to try to understand more about
9 them; and if you went in automatically and assigned a risk
10 factor as the cause of a disease, you don't have the
11 opportunity to really discover the real cause if you can find
12 it.

13 There's certainly you can have inherited causes of disease
14 that may actually be spontaneous where this is the first
15 patient that has it. If you assigned a risk factor of age or
16 sex as the cause, then their other children may not be able to
17 be screened.

18 **Q.** I think we're coming close to the end of our time today,
19 but I'd like to just talk, if I could, briefly about
20 methodology, yours and Dr. Weisenburger's.

21 **A.** Okay.

22 **Q.** Could you walk the jury through the method that you used
23 in reaching your conclusions in this case?

24 **A.** So I reviewed the medical record because clinical
25 information is very important for making a diagnosis. We don't

1 as pathologists make it just blindly by looking at the slides.

2 Then I reviewed the slides. There's what's called a
3 hematoxylin and eosin stain slide, and that is kind of the type
4 of stain we do for every type of tissue that we get, and that's
5 the starting point for doing an evaluation as a pathologist.
6 And then we look at additional stains, which are usually
7 immunohistochemical studies, which help us.

8 So I looked at the H and E section, which was suggestive
9 of a diffuse large B-cell lymphoma, but I mentioned I can't
10 tell if it's a B-cell or not by just looking at the microscope.
11 So there were a number of other stains that were done by the
12 pathologist that confirmed that the large cells were B cells
13 and confirmed that diagnosis.

14 And then there were a variety of other tests that were
15 done that were stains, as well as genetic tests, to determine
16 the prognosis -- prognostic risk group in Mr. Hardeman.

17 **Q.** And what did you conclude from looking at those materials?

18 **A.** That the -- I agreed with the diagnosis of a diffuse large
19 B-cell lymphoma.

20 **Q.** And were you able to determine the cause of Mr. Hardeman's
21 NHL?

22 **A.** No. Looking at the slide, it's not possible to determine
23 the cause. There were not features of a immunodeficiency-
24 associated lymphoma. Epstein-Barr viral studies were
25 performed, which is one cause, and they were negative. So I

1 was not able to determine a cause looking at the slides.

2 **MR. KILARU:** Your Honor, at this point I'd ask
3 permission to publish a slide that was shown during opening
4 statements from plaintiff's opening. It's not marked so it
5 would be, I guess, Exhibit 1687 is I think the number we're at.

6 (Trial Exhibit 1687 marked for identification)

7 **THE COURT:** Do you have a copy for me, and have you --

8 **MR. KILARU:** I will get a copy of it, yes.

9 **MS. MOORE:** Your Honor, it's the differential blowup
10 that we used.

11 **THE COURT:** Oh. That's fine.

12 **MR. KILARU:** Is that okay?

13 **THE COURT:** I think so. Let's make sure there's no
14 objection from them.

15 Any objection?

16 **MS. MOORE:** Oh, no, Your Honor. I apologize.

17 **THE COURT:** Thank you.

18 Go ahead.

19 **MR. KILARU:** And, Ms. Melen, can I have the Elmo,
20 please.

21 **Q.** Now, Doctor, you said earlier that you had a chance to
22 review the testimony that Dr. Weisenburger provided to the
23 jury?

24 **A.** Yes.

25 **Q.** And are you familiar with a chart sort of like this that

1 was used during his testimony?

2 **A.** Well, from his testimony, this sounds familiar, yes.

3 **Q.** So I think what we're looking at is a chart that lists
4 some risk factors for NHL and then has fields for whether they
5 were Mr. Hardeman's risk factors and a substantial factor. Is
6 that what you're seeing as well?

7 **A.** Yes.

8 **Q.** Doctor, have you ever used a slide or a chart like this in
9 diagnosing a patient?

10 **A.** No.

11 **Q.** Have you ever seen any of the doctors you've worked with
12 over the course of your career use a method like this?

13 **A.** No.

14 **Q.** I think what followed, then, was Dr. Weisenburger going
15 through this chart and filling it out.

16 **MR. KILARU:** And if I can publish just a later slide.

17 **MS. MOORE:** Your Honor, no objection but just to
18 clarify, this is from opening. This is not what
19 Dr. Weisenburger did.

20 **MR. KILARU:** Sure. It's from the opening.

21 **THE COURT:** That's fine.

22 **MR. KILARU:** So I'm putting up what we'll mark as 16,
23 I think, 88 for identification.

24 (Trial Exhibit 1688 marked for identification)

25 \\\

1 BY MR. KILARU:

2 Q. Doctor, as you can see on the screen, there's sort of a
3 list -- some risk factors crossed off and then there's a
4 conclusion on the right -- or there's a marking on the right
5 that Roundup was a substantial factor in Mr. Hardeman's NHL.
6 Is that what you're seeing as well?

7 A. Yes.

8 Q. And is it your understanding that this is basically the
9 methodology that Dr. Weisenburger used in this case?

10 A. Yes.

11 Q. Doctor, have you ever used that methodology in diagnosing
12 a patient within your career as a pathologist?

13 A. No.

14 Q. Have you ever seen anyone else you work with use this kind
15 of methodology?

16 A. No.

17 Q. And do you believe as someone who's been practicing in
18 pathology for -- how long is it now?

19 A. 26 years.

20 Q. -- 26 years, do you believe that this is a valid way of
21 identifying the cause of a patient's NHL as a pathologist?

22 A. No, I don't.

23 Q. Why do you say that?

24 A. Well, it lists a number of risk factors. It ignores some
25 of them like age, sex, and race, all are risk factors; but it's

1 not -- first of all, you can't just make a list of risk factors
2 and then just mark them off and diagnose with what's left on
3 the list because idiopathic is the most common thing here.

4 And if you assign a risk factor as the cause of the
5 disease even if it's a weak risk factor, you again lose the
6 opportunity to discover future risk factors that may be very
7 important for the patient.

8 And if you look at this, things like obesity and viral
9 infections have risk factors of about 1.2, 1.3; and even if you
10 accepted pesticide use, it had some more risk factor. So why
11 would you choose one over the other? These are all relatively
12 weak even if you accept pesticide use as a risk factor.

13 Q. And, Doctor, just going through this, if you crossed off
14 risk factors that you didn't think applied, would you
15 automatically be able to determine that whatever is left was
16 the thing that caused someone's NHL?

17 A. No.

18 Q. And do you think that Dr. Weisenburger's methodology gives
19 adequate consideration to the possibility that Mr. Hardeman's
20 cancer was just idiopathic, that we can't determine the cause?

21 A. No. Using this methodology, you could never get to
22 idiopathic I don't think.

23 MR. KILARU: Your Honor, I'm happy to keep going,
24 but --

25 THE COURT: No. It sounds like this would be a good

1 time to break for the day.

2 So, ladies and gentlemen of the jury, let me just give you
3 a quick minute -- let me give you a quick update on where we
4 are.

5 As I mentioned at the beginning of this trial, from time
6 to time we'll be asking you to deliberate in the middle of the
7 trial on specific questions, and we're getting to the point
8 where we're going to ask you to do that on Phase I, this issue
9 of medical causation that we've been dealing with here.

10 So what I expect in terms of timing -- sorry to make you
11 sit here and listen to this -- but what I expect in terms of
12 timing is that tomorrow morning we will wrap up with Dr. Arber,
13 and then we will go to closing arguments from the lawyers on
14 the Phase I portion of the case and you will begin your
15 deliberations.

16 What that means in terms of scheduling and terms of timing
17 is as follows:

18 As you know, I usually get you out of here at right around
19 2:30, give or take; but when you -- I want you to start
20 thinking about this now -- when you begin deliberating, and
21 you'll almost certainly begin deliberating tomorrow -- okay? --
22 when you are deliberating, you can collectively make the
23 decision to stay through the close of business; right? You can
24 stay past 2:30 if you wish to continue your deliberation.

25 So you might even want to have a little bit of a chat

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1 about that now when you go back there to see if you're
2 interested in going past 2:30 tomorrow.

3 And then if deliberations go on to Thursday, you are
4 also -- you can also come in and continue your deliberations on
5 Thursday even though that isn't a normal trial day for us.

6 So I wanted to plant those thoughts in your head right
7 now, but you can plan on hearing closing arguments from the
8 lawyers tomorrow and almost certainly begin your deliberations
9 tomorrow.

10 With that, remember all my admonitions, and we will see
11 you tomorrow morning. Please try to be here right at -- please
12 try to be in the building well before 8:30 so that we can start
13 right at 8:30 sharp. Thank you.

14 **THE CLERK:** All rise.

15 (Proceedings were heard out of the presence of the jury:)

16 **THE COURT:** Okay. You can step down, Dr. Arber.

17 Okay. So why don't we get back together at 3:00 o'clock
18 and talk about jury instructions and closing arguments and
19 anything else that you-all need to talk about. Okay?

20 **MS. MOORE:** Thank you, Your Honor.

21 **MR. STEKLOFF:** Thank you, Your Honor.

22 **THE CLERK:** Court is in recess.

23 (Recess taken at 2:38 p.m.)

24 (Proceedings resumed at 3:01 p.m.)

25 (Proceedings were heard out of presence of the jury:)

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1 **THE COURT:** Okay. So let me ask first on the jury
2 instructions, are there any objections to any of the
3 instructions other than causation?

4 **MR. KILARU:** Your Honor, we had one suggestion and
5 then one additional instruction that we thought should be
6 given.

7 **THE COURT:** Okay.

8 **MR. KILARU:** So the suggestion is on Instruction
9 Number 9 -- this is the regulatory agencies one.

10 **THE COURT:** Okay.

11 **MR. KILARU:** We have two proposals. I think first,
12 given that I think the evidence on both of these fronts has
13 been appropriately limited in how it comes in, our concern is
14 actually saying "other health organizations" may be a little
15 too vague in terms of making clear that what we are talking
16 about here is IARC. So we proposed to change that to,
17 regulatory agencies and IARC have reached conclusions about,
18 because those are the bodies that we have focused on and the
19 bodies we are talking about when we get to this instruction.

20 **THE COURT:** Yeah, I mean -- there was a mention of the
21 American Cancer Society today, for example. Any objection to
22 that?

23 **MS. MOORE:** Yes, Your Honor. We wouldn't want to
24 single out IARC versus EFSA or EPA or anything else. I mean,
25 we shouldn't just be singling out IARC as one that they

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1 shouldn't reach a conclusion about.

2 **THE COURT:** Okay.

3 **MR. KILARU:** Just on that, Your Honor, I think our
4 point is that I think it is pretty clear that EFSA, EPA and
5 Health Canada are regulatory agencies. It is not as obvious
6 that IARC fits into this, based on what the jury has heard,
7 this category of other health organizations.

8 **THE COURT:** But the bottom line is when they --
9 whether we word it you are proposing or the way I'm proposing,
10 they are going to know not to defer to IARC. They are going to
11 know not to defer to EPA. They are going to know not to defer
12 to EFSA.

13 **MR. KILARU:** The concern is it is not clear that they
14 will with respect to IARC. It is not obvious that this
15 instruction is applying to that. I think the concern is it
16 could lead to the opposite, which is the jury thinks disregard
17 the regulators; but then there is this thing called IARC which
18 is part of the World Health Organization and we can take that
19 for what it is.

20 **THE COURT:** Okay. So I assume you might even say --
21 you might even propose EPA, EFSA and IARC have reached their
22 own conclusions. You shouldn't substitute their judgment for
23 yours.

24 **MR. KILARU:** I think that would be fine as well.

25 **MR. STEKLOFF:** I have another concern, Your Honor,

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1 which is as phrased "other health organizations," I mean, I
2 don't think this would happen, but it is possible they could
3 think, say, the National Cancer Institute is another "health
4 organization." And we have been talking about the National
5 Cancer Institute so much in the context of AHS. And so I think
6 without being specific, it is potentially problematic.

7 We have no objection to specifying the regulatory agencies
8 if that is a concern. But I think the phrase "other health
9 organizations" is too ambiguous for the jury, given -- and I
10 would specifically flag the National Cancer Society.

11 **THE COURT:** What would be wrong with saying the
12 Environmental Protection Agency, the EFSA, whatever that stands
13 for and the IARC have reached conclusions about glyphosate?

14 **MS. MOORE:** Your Honor, I don't think it is necessary.
15 I mean, we could go on and on with defining what this means and
16 what it entails. I mean, I think the Court is going to be very
17 clear in your instructions to the jury that they are not to
18 substitute these conclusions for their own that they draw from
19 the evidence. So I don't think we need to actually identify
20 one versus the other or all or go through the transcript and
21 try to figure out to make sure we have listed everything.

22 **THE COURT:** Okay.

23 **MS. MOORE:** I think the instruction is sufficient as
24 it is.

25 **THE COURT:** I think you could also -- it should

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1 probably say You have heard testimony that, and then whatever
2 phrasing we would use. I think it would be fine to say you
3 have heard testimony that EPA, EFSA and IARC have reached
4 conclusions about glyphosate.

5 **MR. KILARU:** That would be fine with us, Your Honor.

6 **THE COURT:** Okay. I think that is probably the most
7 appropriate way to do it.

8 **MS. MOORE:** So how, Your Honor, would you be changing
9 that then?

10 **THE COURT:** You have heard testimony that EPA, EFSA
11 and IARC -- and we will put the -- we will put the full names,
12 then in parentheses the acronyms, have reached conclusions
13 about glyphosate.

14 **MS. MOORE:** Okay. So you would just replace
15 "regulatory agencies and other health organizations" with that?

16 **THE COURT:** Yeah.

17 **MR. KILARU:** I think there might be one more,
18 Your Honor. We can scrub to make sure we are not missing any,
19 but I think ECHA was discussed during --

20 **THE COURT:** What is that?

21 **MR. KILARU:** I don't know which acronym it stands for,
22 but I know they were talked about in the context. The European
23 Chemical Health Association, I believe. It came up in the
24 Portier deposition.

25 **THE COURT:** Well, what is that? Is that a regulatory

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1 agency.

2 **MR. KILARU:** Yes, it is.

3 **MS. MOORE:** Your Honor, again, this highlights the
4 problem here. I think that if the Court is going to give an
5 instruction to this effect, which I believe that initially we
6 objected to that, when we first saw the original jury
7 instructions, that I don't think it is necessary to keep going
8 through a litany of these. I think what you have here would be
9 sufficient.

10 **MR. KILARU:** I think it is four things total based on
11 our review of Dr. Portier's testimony. I don't know that it is
12 an unduly long list. I think there are concerns as
13 Mr. Stekloff contributed with both the just the phrase "health
14 organizations."

15 **MS. MOORE:** It is going to cause jury confusion, Your
16 Honor. Because then what are they supposed to give weight to?
17 What are they not supposed to give weight to?

18 **THE COURT:** Well, they are not supposed to give weight
19 to the EPA or EFSA or ECHA or IARC. And they are supposed to
20 give weight to the AHS if they decide that it is worth giving
21 weight to.

22 **MS. MOORE:** Right. And, again, I think what they are
23 getting at is they are going to say in closing the AHS is part
24 of a governmental study, and so they are going to use this
25 instruction in their favor in that sense.

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1 **MR. KILARU:** I don't think we are going to tie
2 anything we say about AHS to this instruction, Your Honor. I
3 think this instruction relates to the way in which we present
4 evidence of what the regulators do and what IARC did.

5 **THE COURT:** Okay. I think it would be appropriate to
6 list those four, and that is as of now, unless I tell you
7 otherwise, tonight that's what I will do.

8 You said you had one other thing other than causation?

9 **MR. KILARU:** Yes, Your Honor. There is, I think, a
10 pretty standard -- actually just on this instruction one other
11 suggestion. I think this is less important but just wanted to
12 suggest it. In your original instruction there was much more
13 text about IARC and risk versus hazard, and I think we agreed
14 that that doesn't need to happen given the testimony, but it
15 could be appropriate to include something like The question you
16 must answer here is different from the question those
17 organizations have considered, something like that.

18 **THE COURT:** I think -- I -- I understand that
19 suggestion, but I think actually in light of this instruction
20 and in light of the limited way that that evidence has come in,
21 that's not necessary. And I would want to refrain from saying
22 something that would further confuse the jury.

23 **MR. KILARU:** Okay.

24 The other instruction, Your Honor, is that there is -- I
25 think pretty standard -- there is a California -- there is a

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1 CACI version 104, and there's a Ninth Circuit model 4.1, just
2 an instruction about how corporations are entitled to the same
3 treatment as individuals. 4.1, the language is: All parties
4 are equal before the law and a corporation is entitled to the
5 same, fair and conscientious consideration by you as any party.

6 The 104 California instruction is a little bit longer. I
7 but think those are pretty standard in cases involving a
8 corporate defendant and we ask that --

9 **THE COURT:** Any objection?

10 **MS. MOORE:** Yes, Your Honor. With respect to
11 causation, I don't think that's necessary. If we are talking
12 about liability of the company, I think that that would come
13 into play.

14 **MR. KILARU:** It's still relevant given that we are
15 presenting evidence as to causation, and they are a
16 corporation.

17 **THE COURT:** The question is whether this corporation's
18 product causes cancer and caused Mr. Hardeman's cancer. I
19 mean, can you -- I understand the point you made.

20 Can you think of anything -- how -- can you imagine it
21 would create any problems giving this instruction?

22 **MS. MOORE:** Well, it may create jury confusion,
23 Your Honor, with respect to the issue about just causation. I
24 mean, I don't think it creates jury confusion when you are
25 talking about a liability instruction. But in this situation

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1 when we have limited it to one question that they are answering
2 on the verdict form, I don't think it makes sense to do that in
3 this case.

4 **THE COURT:** I'm just pulling up the Ninth Circuit now,
5 the instruction.

6 **MR. KILARU:** I think I might have said this, but it is
7 4.1, Your Honor.

8 **THE COURT:** Okay. I'm pulling these up on the Ninth
9 Circuit website, and it gives you a WordPerfect version.

10 **MR. KILARU:** I saw that. I had to find it elsewhere.
11 I haven't used that in a while.

12 (Whereupon, a brief pause was had.)

13 **THE COURT:** Yeah, I think this is fine. This is
14 appropriate to give now, so we will add that.

15 **MR. KILARU:** That was all from us other than
16 causation, Your Honor.

17 **THE COURT:** Okay. Anything else from the Plaintiffs,
18 putting aside causation for the moment?

19 **MS. MOORE:** Your Honor, I think the only thing was I
20 didn't know if we were going to have an instruction about the
21 video depositions and giving them the same weight as someone
22 who was a live witness here. I know you have the What is
23 evidence, Instruction Number 2, and it says the sworn testimony
24 of any witness. I think under the model instructions there is
25 something about video depositions. And so I would have to go

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1 back and pull that. And I can get that for, Your Honor, too.

2 **THE COURT:** Well, I have given that to them during
3 trial. I have no problem with kind of repeating it as I give
4 them the instruction about what is evidence.

5 **MS. MOORE:** Okay. Thank you, Your Honor.

6 **THE COURT:** We should -- so what I can do is just in
7 that Instruction Number 2, What is evidence, I will just say
8 the sworn testimony of any witness. And as I instructed you
9 before, insofar as possible you should consider deposition
10 testimony presented to you in court in lieu of live testimony
11 in the same way as if a witness had been present to testify.

12 **MS. MOORE:** That's fine, Your Honor. There is a model
13 instruction. It is 2.4. I just found.

14 **THE COURT:** I just read from it.

15 **MS. MOORE:** Okay. That's fine.

16 I think the only remaining issue, Your Honor, would be the
17 causation instruction.

18 **THE COURT:** Okay.

19 All right. On the causation instruction -- oh, I did want
20 to flag one more thing, just to make sure you noticed it. On
21 the credibility instruction, Number 5, Credibility of
22 witnesses, I just wanted to make sure that you noticed that I
23 removed a portion of that instruction from the model on the
24 theory that it didn't seem particularly pertinent to this phase
25 of the trial. It was the part of the model instruction that

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1 talks about how, you know, if you think somebody is lying about
2 one thing you can disbelieve their entire testimony, if you
3 want to; or if you think they are lying about one thing, you
4 can still believe other parts of their testimony, if you want
5 to.

6 There -- there is a whole -- there is a kind of a series
7 of clunky paragraphs on that topic in this model instruction
8 that I thought I would propose to eliminate, at least for this
9 phase. I don't have superstrong feelings about it, but I just
10 wanted to make sure I flagged for you that I, in fact,
11 eliminated those paragraphs.

12 **MS. MOORE:** Okay. Thank you, Your Honor. I have
13 pulled that up. I don't have any objection to your removing
14 those two paragraphs.

15 **MR. KILARU:** I think we would be inclined to leave it
16 in, but don't feel strongly about it, Your Honor. I recognize
17 it is a fair amount of text. I do feel that witnesses on both
18 sides have probably been impeached in one way or another. It
19 is fair for the jury to consider that as they go to evaluate
20 the testimony.

21 **THE COURT:** Well, my plan walking in was if one side
22 objected and wanted this -- that language in, I would put it
23 back in, even in my view it is not necessary. It is from the
24 model. I don't want to unwittingly deprive somebody of an
25 argument that they might want to make in closing.

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1 **MR. KILARU:** We would prefer you to leave it in,
2 Your Honor.

3 **THE COURT:** Okay. Now, on causation. Here's -- let
4 me try and capture my struggle for you.

5 On the one hand you have all this language from all these
6 cases that talk about how a multiple causation instruction is
7 going to be very rare, right. And you say normally you give
8 the but-for sentence and you don't give the multiple causation
9 instruction. It is going to be a very rare situation where you
10 do that, okay.

11 And my concern is that if -- if you are giving it in every
12 case where there are competing risk factors and one side says
13 Risk Factor A caused the medical condition, the cancer, and the
14 other side says Risk Factor B caused the cancer, and then you
15 must give the multiple causation instruction, all of a sudden
16 you are bringing in -- I would think anyway -- a significant
17 percentage of cases where medical causation is at issue.

18 And so something about that makes me feel uncomfortable,
19 all right. And it makes me wonder, Well, maybe the way that
20 this rule should be interpreted is that you give the multiple
21 causation instruction only in a situation where we know that
22 two things contributed to the harm.

23 And in a situation where we know that two things
24 contributed to the harm, we have to make sure that the jury
25 understands that just because one thing contributed to the

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1 harm, that doesn't necessarily mean that you conclude that the
2 other thing wasn't a substantial factor.

3 So two fires are started at the same time and they both
4 combine to burn down the barn, right. Or they both combine
5 into one fire and then the barn is burned down. Even if one
6 fire hadn't started, the other fire would have burned down the
7 barn. And therefore both --

8 So I suppose that might be a way to interpret the rules'
9 application narrowly. In a way that comports with the general
10 statements that the Courts seem to intone that, you know, this
11 is going to be a rare instruction.

12 On the other hand, it strikes me as potentially misleading
13 to the jury to not have a multiple causation instruction in
14 this case and to have the but-for sentence. I assume that
15 Monsanto would agree -- let's change the facts of this case a
16 little bit, okay.

17 Hypothetical: I assume Monsanto would agree that if
18 somebody was negligently responsible for causing Mr. Hardeman's
19 hep C in the '60s, that Mr. Hardeman could sue them for causing
20 his non-Hodgkin's lymphoma, right? Putting aside any statute
21 of limitations issue or whatever, right. But you would agree
22 that he could sue the person who caused his hep C and --
23 assuming it was negligent -- and prevail on the causation
24 question in a jury trial, right?

25 **MR. KILARU:** Right. I think we think the standard

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1 there would be but-for as well, but I think he could bring that
2 suit, yes.

3 **THE COURT:** He could bring that suit, and he could
4 establish that hep C was a substantial factor in causing his
5 NHL.

6 **MR. KILARU:** Yes. I think if his theory were
7 different than here, which is that it was not hepatitis C. But
8 I think sort of following what I understand --

9 **THE COURT:** Right. So you have, in fact, presented
10 evidence from which a jury could conclude that his NHL was
11 caused by hep C, right?

12 Or let me put it a little bit more precisely. You have
13 presented evidence from which a jury could conclude that hep C
14 was a substantial factor in causing his NHL.

15 **MR. KILARU:** Yes. And not Roundup.

16 **THE COURT:** Yes, you have also presented substantial
17 evidence that it was not Roundup.

18 So a jury could conclude that based on the evidence that
19 you have presented in this case. But if the jury concludes
20 that, it doesn't automatically preclude the jury from
21 concluding that Roundup was a substantial factor, I would
22 think.

23 **MR. KILARU:** I think that is not correct in this case,
24 Your Honor, at least based on the way the evidence has come in.
25 And that's ultimately what I think our bottom line argument on

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1 this point, because this isn't a case where anyone has said
2 that the hepatitis C could have been caused by both or that at
3 the same time these things were --

4 **THE COURT:** Meaning that the NHL could have been
5 caused by --

6 **MR. KILARU:** I get it now. There is one NHL, and
7 their expert, Dr. Weisenburger, has said, and I think we have
8 seen the charts and so on, it was Roundup and it was not
9 something else. And our position is basically it wasn't
10 Roundup, and we have presented hepatitis C as an alternative.

11 But I don't think there is any basis in the record for the
12 jury to say, Well, based on what I have heard, if I believe it
13 was Roundup, I could still believe -- or if I believe it was
14 hepatitis C, I could still believe it was Roundup. Because
15 they have been represented with binary alternatives, one or the
16 other. I don't think in that.

17 **THE COURT:** Right.

18 **MR. KILARU:** -- in that circumstances --

19 **THE COURT:** I suppose you would add that they could
20 have, if they wished, presented expert opinions which said,
21 number one, I believe that the NHL was caused by Roundup and
22 that Roundup was the only substantial factor. But my secondary
23 opinion -- second best choice to use Dr. Levine's concept --

24 **MR. KILARU:** Right.

25 **THE COURT:** -- is that at a minimum, the Roundup and

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1 the hep C combined to cause his NHL.

2 And by the way, there would have been -- had they chosen
3 to present such evidence, I assume there would have been
4 scientific support for it. I mean, you disagree that there is
5 scientific support for the idea that Roundup causes NHL, but
6 assuming for the moment that, you know, the jury is allowed to
7 present that. If you have two things that cause cancer, I
8 presume what it means, based on the testimony that has all come
9 in here over the last few days, is that the more -- the more
10 risk factors that are operating on this person, the more
11 genetic mutation and the more likely cancer is to result,
12 right?

13 And so they could have presumably presented that
14 alternative opinion, and they didn't. And having not presented
15 expert testimony in support of that theory, they should not get
16 the benefit of the instruction. That's your argument.

17 **MR. KILARU:** Essentially --

18 **MS. MOORE:** Your Honor.

19 **MR. KILARU:** Essentially, yes, Your Honor. I think if
20 they try to present that type of sort of combined or, I guess,
21 sort of synergistic cause theory, I don't think this is really
22 germane to your point, I would just say we might have
23 scientific and other validity challenges to that methodology.

24 And sort of taking that away, because I think that might
25 be an issue that comes up later in other issues, for now I

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1 think that is essentially our argument that all we have is A or
2 not A. And I think in a situation where you have A or not A,
3 there is really no -- we think no basis in California law from
4 departing from I think the general rule, which I think is
5 pretty clear, the general rule that we are in a but-for
6 situation.

7 **THE COURT:** But -- but I guess the issue that I'm
8 struggling with is that you seem to be saying that the jury
9 must either -- sort of buy the Plaintiff's experts' theory or
10 the defense experts' theory. Why can't they buy both?

11 **MR. KILARU:** Because there has been no evidence that
12 will allow them to buy both. The one side's view of the world
13 was that it was Roundup and not hepatitis C. Dr. Weisenburger
14 crossed it off and said it has nothing to do with my opinion.
15 He was the only case-specific opinion they offered. And
16 certainly no one from our side has said that Roundup and
17 hepatitis C can work together and you can still have Roundup as
18 the cause if hepatitis C were present. I mean, ultimately we
19 have said -- as you know, our main position is that it wasn't
20 Roundup, and that's what we sort of focused on and that's what
21 I think the emphasis will be in closing.

22 I think we are entitled to present other things so that
23 the jury has other things to consider so we are not just saying
24 it wasn't Roundup. But I don't think that means we are putting
25 in the juror's mind or presenting some valid scientific

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1 evidence that the two things can work together. And that's
2 what the jury would have to think for this -- it was both view.
3 I don't think there is any evidence of that.

4 **THE COURT:** What if the jury -- what if the thought --
5 you know what, I believe Roundup causes -- I have listened to
6 the testimony, and I believe that Roundup causes NHL, general
7 causation. I buy the Plaintiff's argument on general
8 causation. And, you know, I view -- and I think there is a
9 good argument that Roundup caused Mr. Hardeman's cancer, but
10 there is a really strong argument that hep C caused -- was
11 going to cause his cancer anyway. Let's just say he would have
12 gotten it anyway from hep C. He had active hep C for 39 years
13 after all.

14 So I believe that hep C is the strongest -- was the
15 strongest risk factor, and so I'm going to say that his cancer
16 was caused by hep C.

17 But they still -- I guess the way -- I guess you can see
18 that I'm struggling with this too. I guess the way to put the
19 question to you is, is there a risk that if you include the
20 but-for sentence that the jury will say -- will think, oh, what
21 this but-for sentence means is that if I think he would have
22 gotten it from hep C anyway, then even if I think he got it
23 from Roundup, I should find for Monsanto. That's my concern.

24 **MR. KILARU:** I don't think based on the way you
25 phrased Option Number 2, Your Honor. Because I think the last

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1 sentence you put in there captures that point. But to me the
2 really important point that we need to sort of shelter against
3 the other side is the risk that the jury says could have been
4 either, so therefore -- and I don't know which it was, but it
5 could have been either, therefore, the Plaintiff wins. That's
6 why I think the but-for requirement is so essential.

7 If I can just -- on the point you made about what if the
8 juror -- this sort of hypothetical juror who thinks maybe it
9 was possible that Roundup was in the mix, but I think
10 hepatitis C was, you know, overwhelmingly the substantial
11 factor here. I think if the juror --

12 **THE COURT:** Well, my hypo is a little different. It
13 was my fault because I sort of -- it was pretty convoluted in
14 the way I tried to present it.

15 **MR. KILARU:** That's fine.

16 **THE COURT:** My hypo is -- okay. So let's go to the
17 actual language of the proposed instruction. Okay?

18 **MR. KILARU:** Okay.

19 **THE COURT:** Let's look at this sentence that says
20 Conduct is not a substantial factor in causing harm if the same
21 harm would have occurred without that conduct. Okay.

22 The thing I'm worried about here is what if the jury says,
23 Well, I think the Roundup caused his cancer, but it would
24 have -- he would have eventually got the cancer anyway from
25 hep C.

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1 **MR. KILARU:** I don't think that's what we are arguing,
2 Your Honor, so I don't think that's really a concern about the
3 way the case has come forward. The way we have presented the
4 case to the jury -- and I think the way both sides have
5 presented the case to the jury -- is that the substantial
6 factor is either one thing or the other. And Dr. Weisenburger
7 actually used the term "substantial contributing cause" in his
8 testimony, and he said what that is in this case is Roundup.
9 It is nothing else.

10 **THE COURT:** That's what makes this -- this case kind
11 of weird, right? I mean, I would think usually you would have
12 an alternative expert opinion that says, you know, even if you
13 don't think it is the sole cause, the two things combine.
14 I believe, the two things combine to --

15 **MS. MOORE:** And, Your Honor, for two things. One, on
16 that sentence that the Court has pointed out that you are
17 worried about conduct is not a substantial factor in causing
18 harm, the same harm would have occurred without the conduct,
19 that is the but-for test. And that has been repudiated under
20 California law for these kind of cases.

21 And I will just say that Dr. Weisenburger listed the risk
22 factors and included hepatitis C. There is no question that a
23 juror -- and we can -- we will argue our position; they will
24 argue their position. But the evidence is that
25 Dr. Weisenburger considered hepatitis C as a risk factor, just

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1 like Dr. Levine did. Dr. Levine says it is the most likely
2 cause. Dr. Weisenburger says Roundup is the most likely cause.
3 But he also testified that he couldn't just eliminate
4 hepatitis C completely.

5 So absolutely a juror could say, you know what, I think it
6 is Roundup; also could be hepatitis C. And but if they read
7 this sentence, they are going to find -- they would find for
8 Monsanto, if they are thinking that, Well, if it is also hep C
9 then I can't find for the Plaintiff. But they also might have
10 said, We met our burden of proof. I think it creates jury
11 confusion, and this is the case --

12 **THE COURT:** I mean, the problem -- I will say on the
13 issue of jury confusion, I mean, one of the problems with --
14 when you are looking at Option 2 now, and we are looking at the
15 second paragraph, and one of the problems is that the -- the
16 first sentence and the second sentence seems somewhat at odds
17 with one another, right. And that is a concern that I have
18 with that paragraph. I'm just not 100 percent sure what the
19 solution is.

20 **MS. MOORE:** Well, I think the solution is Option 1,
21 Your Honor. Option 1 is very clear. I mean, the first
22 paragraph -- the first paragraph of both, I believe, are
23 identical. But the second paragraph for Option 1 is the one
24 that I think prevents jury confusion in this case. California,
25 for product cases like this, is a substantial factor state.

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1 **THE COURT:** Well, can I ask you -- what do you think
2 is your best case for the argument for giving this instruction?

3 **MS. MOORE:** Option 1, Your Honor. Is that what you
4 are talking about?

5 **THE COURT:** Either one.

6 **MS. MOORE:** Well, I mean, in this case you have
7 multiple causes that are being presented to the jury. And in
8 the case I pointed out, Your Honor, this morning, the Logacz
9 versus Limansky case, that is what happened in that case.
10 There was a defense expert who presented a causation theory and
11 a Plaintiff's expert that presented a causation theory. And
12 the trial court did not offer the concurring causation
13 instruction and the Court of Appeals reversed on -- and said it
14 was reversible error not to do so in that case.

15 So in this situation the jury could absolutely find that
16 Roundup and hep C both contributed to his non-Hodgkin's
17 lymphoma, and they can still find for the Plaintiff because
18 Roundup was part of that.

19 **THE COURT:** Well, you are using the word
20 "contributed."

21 **MS. MOORE:** Okay. Well, substantial factor. I'm
22 sorry, Your Honor.

23 **THE COURT:** Because -- I mean, that's important, I
24 think, because what you seem to be suggesting there is that the
25 jury find that even if one of them on their own didn't --

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1 wouldn't have caused the cancer, they both combined to cause
2 the cancer. And I don't think there was anything close to
3 testimony suggesting that, right?

4 **MS. MOORE:** I mean, no. Well, Dr. Portier
5 testified -- you will recall the George study, Your Honor, from
6 2010. And Dr. Portier talked about Roundup is also a promoter
7 not just an initiator. That was the mouse study where they put
8 Roundup on the skin of the mice.

9 And what they found in that study was that not only was
10 Roundup an initiator of the cancer cells, but it is also a
11 promoter of the cancer cells. So we absolutely have evidence
12 before the jury that if they believe what Dr. Levine said
13 today, which is that the -- I think her word was "accident" --
14 happened somewhere in the 39-year period where the genetic
15 mutation formed, there is absolutely proof in the case that
16 Roundup could have been a promoter of that genetic mutation
17 that had been caused --

18 **THE COURT:** But did Dr. Portier actual offer that
19 opinion? Because I don't think -- I mean, he was talking about
20 it in the context of this one study. But did he ever actually
21 offer an opinion that said, Number 1, I believe that Roundup
22 caused the NHL; but Number 2, even if you believe that hep C
23 caused the NHL, I believe that Roundup or hep C sort of caused
24 an initial genetic mutation that set off a chain reaction,
25 I believe that Roundup contributed to that chain reaction and,

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1 therefore, resulted in Mr. Hardeman getting cancer?

2 I don't remember any testimony to that effect.

3 **MS. MOORE:** I don't think -- well, I don't think he
4 said to that direct of a point, Your Honor. But I don't think
5 he has to. What he offered to the jury was evidence that
6 Roundup has been proven by the science to be an initiator and a
7 promoter. And so that gives us the ability to make that
8 argument in closing arguments that Roundup -- if you believe
9 what the defense says. I'm not saying that that's what we say.

10 But if you believe what the defense says, that Dr. Levine
11 says that he had this genetic mutation and it did not -- caused
12 by hep C, and it didn't go away with therapy, it stayed in his
13 testimony. But he is also at the same time being exposed to
14 Roundup. And we know from Dr. Portier's testimony that Roundup
15 is also a promoter of precancer and cancer.

16 And so absolutely we can make that argument in closing and
17 present that to the jury. And so I do think in that situation
18 that it is only right that Option 1 be given versus Option 2.

19 **THE COURT:** But you -- I mean, it seems a little
20 strange. I mean, I understand the concept of taking little
21 snippets from different fact witnesses' testimony and then
22 putting together a theory for what happened. But the purpose
23 of expert testimony is to get them up on the stand offering an
24 opinion. And you seem to be saying, Even if you disagree with
25 Dr. Portier's opinion, you can take this little snippet from

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1 his opinion that -- where he commented on a mouse study.

2 And -- the George study was a mouse study, right?

3 **MS. MOORE:** Right.

4 **THE COURT:** -- and, you know, you can use that to
5 conclude that even if the Defendants are right that hep C
6 caused the genetic mutation that led to the NHL, that -- that
7 the Roundup accelerated that process, isn't that the kind of
8 thing that you need expert testimony to support?

9 **MS. MOORE:** Well, I think we have expert testimony
10 that Roundup is a promoter. That is clear, and it is
11 undisputed in this case. As you will recall, they have not
12 brought in one witness to dispute the animal studies in this
13 case.

14 And so that is the evidence undisputed.

15 **THE COURT:** Where is his -- can you show me where his
16 testimony is?

17 **MR. KILARU:** Your Honor, while that is happening, can
18 I make a broader point about the George study; is that okay?

19 **THE COURT:** Sure.

20 **MR. KILARU:** So I think the most fundamental point
21 here is that Dr. Portier wasn't a case-specific expert. He was
22 by definition a general causation expert. And in the context
23 of his testimony, he mentioned that there's this mouse study
24 that says if you paint one chemical on a mouse's skin and then
25 you paint another chemical, it can promote tumor activity.

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1 That has nothing to do and was not in any way tied to
2 hepatitis C. It has nothing to do with the conditions that
3 Mr. Hardeman had. And I know we're not getting into what
4 regulators say, even IARC thinks the George study is not
5 particularly credible and I think discredited it and didn't
6 rely on it in its monograph.

7 That's sort of more of a side point. I think they also
8 called Dr. Weisenburger; and if they had this belief that the
9 George study -- I mean, Dr. Weisenburger opined on all the
10 science, including general causation. If they had a belief
11 that there was some validity to this theory that George shows
12 that somehow Roundup promotes hepatitis C activity, you would
13 think they would ask him something about that or even talk
14 about the George study at all, but that didn't happen. So I
15 don't think that can be a basis for justifying a jury
16 instruction.

17 **THE COURT:** And I'm happy to hear what Portier's
18 testimony said, but I think that you have to be right,
19 particularly given that Portier was just a general causation
20 expert, that they actually -- I mean, this is a discussion
21 about the jury instructions, but it's also a discussion about
22 what can be argued to the jury and what cannot. And it seems
23 to me -- I don't see how they could argue to the jury that the
24 Roundup accelerated the process by which hep C gave
25 Mr. Hardeman cancer.

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1 **MR. KILARU:** And I think Dr. Weisenburger's testimony,
2 I mean, I have some cites here, but he said on redirect, in
3 talking about hepatitis C (reading):

4 "I don't believe it was a cause and I don't believe
5 hepatitis B was a cause either for the same or similar
6 reasons."

7 And they were talking about it. And then later, the last
8 question of the direct was (reading):

9 "What was the substantial factor in causing
10 Mr. Hardeman's non-Hodgkin's lymphoma?"

11 And the answer was not Roundup plus hepatitis C, Roundup
12 promoting hepatitis C. It was: It was the Roundup exposure,
13 period.

14 **MS. MOORE:** Your Honor, I apologize. We're looking
15 for the right report because it's not in the trial transcript.
16 Sorry.

17 **THE COURT:** That's okay. Wait. What's not in the
18 trial transcript?

19 **MS. MOORE:** You know, when we had the trial
20 transcripts, it doesn't include what was said in the
21 depositions, and so I have my trial transcript so I can't --
22 I've got to find the Portier run report.

23 **THE COURT:** The Portier what report?

24 **MS. MOORE:** What was actually played from
25 Dr. Portier's deposition because the transcript, of course,

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1 that Jo Ann takes down, she's not taking down the deposition
2 testimony itself.

3 **THE COURT:** Right. Right. Right. Right.

4 **MS. MOORE:** So I have the transcript of the trial but
5 not that.

6 **THE COURT:** And we can circle back to that, but why
7 isn't Mr. Kilaru right that, you know, he was a general
8 causation expert? He didn't testify about the interaction
9 between hep C and Roundup at all, much less the interaction
10 between hep C and Roundup as it relates to Mr. Hardeman.

11 **MS. MOORE:** And I didn't say he did.

12 **THE COURT:** How can you use that -- how can that
13 testimony be the basis for arguing that even if you disagree
14 with us that, you know, Roundup was the initial cause of the
15 cancer, you could find for us by concluding that Roundup
16 accelerated the development of the cancer?

17 **MS. MOORE:** Because that's what the George study says.
18 The George study says Roundup is an initiator and a promotor.
19 That's what they showed in the George study. That's what
20 Dr. Portier testified to; and that's about, you know, a
21 promotor as to genetic mutations in the cells. It doesn't have
22 to be specific to hepatitis C, and I wasn't trying to imply
23 that he was because he did not do case-specific opinions.

24 **THE COURT:** Okay.

25 **MS. MOORE:** But regardless of -- regardless of that,

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1 Your Honor, I mean --

2 **THE COURT:** Okay. So let's assume for the purposes of
3 this discussion, and you can point me to the Portier testimony
4 if you want, but let's assume for the purposes of this
5 discussion that I conclude that it would not be appropriate for
6 you to make that argument to the jury because there was not
7 expert testimony to support that argument. Okay?

8 **MS. MOORE:** Okay.

9 **THE COURT:** So what can you argue to the jury and why
10 is this instruction needed to allow you to do it? I mean,
11 obviously your primary argument to the jury is going to be
12 Roundup causes cancer.

13 **MS. MOORE:** Right.

14 **THE COURT:** Hep C didn't.

15 **MS. MOORE:** Right.

16 **THE COURT:** Okay. Now, you are hoping to present an
17 alternative argument to the jury, and we need to talk about --
18 we need to figure out whether there's a basis in the evidence
19 for you to make that alternative argument to the jury; and then
20 if so, what should the instruction be.

21 **MS. MOORE:** Sure.

22 **THE COURT:** So what is the alternative argument here?

23 **MS. MOORE:** The alternative argument is: You could
24 believe both Dr. Weisenburger and Dr. Levine. You could
25 believe that if you look at all the risk factors that apply to

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1 Mr. Hardeman, which they both agree that hepatitis C is a risk
2 factor that applies, you could believe that Dr. Levine is
3 correct that hepatitis C is a likely cause. You could also
4 believe that Dr. Weisenburger is correct that Roundup is a
5 likely cause. They're not mutually exclusive in that sense.

6 I mean, obviously our number one argument is what the
7 Court said. Roundup caused his non-Hodgkin's lymphoma. That's
8 our case; right?

9 But if you believe what the defendant says, which is what
10 happened in the Limansky case, if you believe what the
11 defendant says, that their expert says -- who said "I didn't
12 even consider Roundup in her analysis," but if you agree with
13 her that hep C was the most likely cause, you can also agree
14 with Dr. Weisenburger, and that's why we need this instruction,
15 Your Honor.

16 **MR. KILARU:** Your Honor, can I respond on that?

17 **THE COURT:** Sure.

18 **MR. KILARU:** I think that -- I think what was just
19 described as an argument does not apt this case, and I think
20 it's actually a pretty critical distinction from the case that
21 counsel's mentioned. This -- I'm not going to try to pronounce
22 it. I would guess it's *Logacz*, but I don't know if that's
23 correct.

24 On page 157 of that decision --

25 **THE COURT:** Wait. Hold on. Let me pull it up.

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1 **MR. KILARU:** Sure.

2 **THE COURT:** Give me one second.

3 **MS. MOORE:** Which decision?

4 **MR. KILARU:** *Logacz*.

5 **THE COURT:** Sorry. Wrong folder. Hold on a second.

6 (Pause in proceedings.)

7 **THE COURT:** Here we go.

8 **MR. KILARU:** I don't know if you have the Westlaw
9 version or the published version.

10 **THE COURT:** Hold on a second.

11 **MR. KILARU:** Sure.

12 (Pause in proceedings.)

13 **MR. KILARU:** I have a copy if Your Honor would like,
14 but I'm guessing --

15 **THE COURT:** Yeah. Why don't you hand it up to me.

16 **MR. KILARU:** Sure.

17 **THE COURT:** It's 71 Cal.App. 4th 1149?

18 **MR. KILARU:** '49.

19 **THE COURT:** Right. I read this last night, but now I
20 need to refresh my memory on it again.

21 **MR. KILARU:** So I think if you look at page 6 of what
22 I just handed you, Your Honor, there's a section marked "2.
23 The Trial Court" -- it starts "The Trial Court erroneously
24 refused to give plaintiff's requested instruction."

25 **THE COURT:** Yeah.

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1 **MR. KILARU:** Okay. So the last sentence of that
2 paragraph is I think the key distinction with this case. It
3 says (reading):

4 "For purposes of this appeal, plaintiffs concede that
5 these other factors" -- which are the ones that the
6 defendants said was the cause -- "may have contributed to
7 Cynthia's death, but that the negligence of the doctor" --
8 which the jury found was also a cause -- "thus, the
9 principle of concurrent causation was and is a critical
10 part of plaintiff's case."

11 So I think that puts this more in the bucket of the two
12 fires case where everyone's sort of acknowledging that there
13 are two things going on. And I think the point in those cases
14 of saying multiple causation not but for is that it would
15 allow -- it reveals basically a deficiency in the but-for test
16 because both people could say it was the other person.

17 But I think the proof here, not to torture an analogy, but
18 the proof here is actually if you had one side saying there was
19 a fire that burned down the house and another side saying there
20 was a stove in the house that ignited, and everyone would --
21 and I think the testimony here is that both of those things did
22 not happen, it was one or the other -- and in that
23 circumstance, Your Honor, I don't think it would make sense to
24 say the jury can believe both because a jury would have to
25 believe either it was the stove or it was the fire.

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1 And I think that's the case here given what
2 Dr. Weisenburger said. He said it was not hepatitis C. It was
3 Roundup. And Dr. Levine, and I think Dr. Arber will say too,
4 it was not Roundup.

5 So I think in those circumstances saying the jury could
6 believe both is a little like saying the jury could believe two
7 witnesses who say the exact opposite things on a point of fact.
8 I don't think you would give an instruction about concurrent
9 cause if that was the factual scenario we were talking about.

10 **THE COURT:** What -- okay. Let's say the jury believes
11 that hep C would have caused Hardeman's NHL alone. Okay?

12 **MR. KILARU:** Okay.

13 **THE COURT:** But let's say that the jury also believed
14 that Roundup was a substantial factor in causing his NHL. In
15 other words, let's say they buy the idea -- buy Levine's
16 testimony and they buy Weisenburger's testimony. I mean, why
17 couldn't the jury believe both of those things?

18 **MR. KILARU:** Because I think no one has -- our defense
19 has not been even if it was the Roundup, he wouldn't have
20 gotten it anyway. Our defense has been in every argument we
21 have made with the experts and throughout the case has been it
22 was not Roundup; and so I don't think the jury can have, based
23 on the proof they have been presented, those two ideas in their
24 head.

25 I mean, they're going to be told they have to evaluate the

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1 credibility of the witnesses, but here you literally do have
2 sort of competing views of what happened. So I don't think
3 based on the proof in this case the jury could come to that
4 view.

5 It would be different perhaps if one of the experts had
6 said, "You know, maybe these were both in the mix," or if
7 Dr. Weisenburger said something like, "I can't rule out
8 hepatitis C," or, "I think hepatitis C may be in the mix but
9 Roundup is clearly more likely." Then I think you could see a
10 world in which a jury could say, "Well, Monsanto might be right
11 that hepatitis C was the more likely cause, but I agree with
12 Dr. Weisenburger that Roundup was the cause."

13 But here that is just not what we have.

14 **MS. MOORE:** But --

15 **MR. KILARU:** We have two very different views of the
16 world that have been presented. I think in terms of how we
17 plan to argue it, that would be the case as well.

18 **THE COURT:** Why didn't you present testimony from an
19 expert that in the alternative, you know, the two could have
20 combined to cause his NHL?

21 **MS. MOORE:** Well, Your Honor, if I could direct the
22 Court's attention to Dr. Weisenburger's testimony, and this is
23 on page 1313 of the transcript, and he was asked a series of
24 questions about hepatitis C and he was asked (reading):

25 "Hepatitis C just like hepatitis B can cause genetic

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1 mutations; right?"

2 And he says, "Yes." And then the question was (reading):

3 "It can cause genetic mutations that ultimately lead
4 to the development of NHL; right?"

5 And he said, "Yes." And then the question was (reading):

6 "And so it is possible you can't rule out that in
7 Mr. Hardeman specifically during that 39- or 40-year
8 period he had genetic mutations that were caused by his
9 active hepatitis C; correct?"

10 And his answer was, "Certainly possible."

11 And then the question was (reading):

12 "And so it's certainly possible that the hepatitis C
13 caused genetic mutations in Mr. Hardeman in the 1960s;
14 correct?"

15 And he says, "It is possible." And then they go on to say
16 the '70s, the '80s, the '80s, and so on.

17 **THE COURT:** Yeah, but he never offered expert
18 testimony either that -- I mean, he could have -- what he did
19 testify is, yeah, it's certainly possible but it's very, very
20 unlikely. That was his testimony. "My opinion is that Roundup
21 caused the cancer and that hep C didn't. It was exceedingly
22 unlikely that hep C caused the cancer." That was
23 Weisenburger's testimony.

24 It seems like he could have said one of a couple things.
25 He could have said, "Look, even if you consider hep C to be a

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1 substantial factor, even if there's evidence to support a
2 conclusion that hep C is a substantial factor, I believe
3 Roundup was also independently a substantial factor and here's
4 why. In other words, here's why I believe even if the jury
5 concluded that hep C participated in causing his cancer, he
6 would have gotten the cancer even if he had not -- from the
7 Roundup even if he had not had hep C." And there's -- he could
8 have testified to that.

9 Or he could have said, "Even if you don't believe that
10 Roundup didn't cause the cancer on its own, I have -- my
11 secondary opinion is that Roundup and hep C combined to cause
12 the cancer."

13 And he didn't do either of those things, and now you're
14 saying you want to argue one of those two things to the jury.

15 **MS. MOORE:** Well, what I'm saying is that there is
16 testimony by Dr. Weisenburger, which is what Dr. Levine was
17 testifying to today, that there was a genetic mutation. He
18 agrees with Dr. Levine that it's possible that you could have a
19 genetic mutation.

20 She also testified that she couldn't say with certainty
21 that there was a genetic mutation. That's her theory. There's
22 no actual data or proof with Mr. Hardeman in particular that
23 there's a genetic mutation that still survived the treatment.
24 Okay?

25 And they both are saying that. The jury heard both of

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1 them say that. So there's -- the jury absolutely could say,
2 "Okay. There's a genetic mutation. They both said that. It's
3 caused by hepatitis C. She says that's what caused the
4 non-Hodgkin's lymphoma. He says it's the Roundup. They both
5 could be right." And that's what happened in the *Limansky*
6 case.

7 **MR. KILARU:** But, Your Honor, I think what followed
8 that testimony -- so, yes, Mr. Stekloff asked those questions
9 of Dr. Weisenburger and got him to admit they were mutations,
10 but what followed is Dr. Weisenburger -- or maybe it preceded
11 it, I'm not sure -- but Dr. Weisenburger then said the
12 antiviral treatment killed all of those cells.

13 I mean, that was the purpose of -- that was what I think
14 counsel was trying to with Dr. Levine on cross today. I mean,
15 that's why Dr. Weisenburger did this whole bit about how
16 sustained virological response -- "bit" is not the right word.
17 I shouldn't have said that, I suppose, but why he talked at
18 length about why sustained virological response eliminates
19 mutations in the cells.

20 He didn't just say "It will reduce your risk to cancer."
21 He said, "It reduces your risk" -- he says, "If you never had
22 hepatitis C at all." He talked about how all of the cells that
23 would be affected would be killed, and Dr. Levine disagreed
24 with that today with -- the same articles that Dr. Weisenburger
25 talked about were presented to Dr. Levine, and that was the

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1 argument that was being presented to her when she was being
2 cross-examined.

3 So I don't think that the testimony that counsel pointed
4 to gets them to being able to say it was both because what
5 followed was Dr. Weisenburger saying "That theory doesn't
6 work."

7 **MS. MOORE:** Your Honor, the bottom line is under
8 California state law, which applies in this case, the but-for
9 causation has been repudiated in favor of substantial factor
10 for sometime now. I mean, the case is going back over 20
11 years.

12 **THE COURT:** There's a -- that's not correct. I mean,
13 the model instruction includes a but-for sentence, and then it
14 says "In a case where there are" -- and then the law says --
15 "In a case where there are independent concurrent causes, you
16 dispense with the but-for sentence and you give a multiple
17 causation instruction"; right?

18 **MS. MOORE:** But, Your Honor, the jury could absolutely
19 find that these are not independent concurrent -- I guess
20 concurrent, that's redundant, isn't it? They could absolutely
21 find that these causes are not independent. They could hear
22 the evidence and say --

23 **THE COURT:** Say the causes combined to cause the
24 cancer? I mean, I just -- I don't think -- I mean, without
25 having elicited an expert opinion about that, I don't see how

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1 you can argue that to the jury.

2 **MS. MOORE:** But it's not that one party has to make
3 that argument, Your Honor. In the *Limansky* case, what the
4 Court of Appeals looked at was that there was the plaintiff's
5 expert who made one -- had one opinion and there was the
6 defense expert who made another opinion; and they said because
7 of those multiple causes that were presented to the jury, it
8 was reversible error not to give the multiple causation
9 instruction.

10 **MR. KILARU:** Respectfully, Your Honor, I don't think
11 that's what the case says. It says that when you have what I
12 think the jury instruction -- the note to 430 envisions, which
13 is concurrent independent causes, multiple forces operating at
14 the same time and independently -- actually, I'm not even sure
15 that qualifies in *Logacz* because I think in that case it's
16 referring to independent causes.

17 **THE COURT:** But here's the thing. I'm looking at
18 *Logacz* and, I mean, I think the key -- you know, I'm going to
19 go back and I'm going to read this decision more carefully
20 during a break and we'll continue this conversation at some
21 point; but, you know, what that case says is for purposes of
22 this appeal, the plaintiffs concede that these factors may have
23 contributed to Cynthia's death, not that they conceded at
24 trial; right?

25 **MR. KILARU:** Right, but I think --

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1 **THE COURT:** And so it sounds like, from the way the
2 court is describing this at least, is that you had one side
3 saying "These factors contributed" and you have the other side
4 saying "These factors contributed."

5 **MR. KILARU:** Right, but I think on the next page it
6 clarifies that actually.

7 **THE COURT:** Okay.

8 **MR. KILARU:** So I think on page 7, if you look at
9 the -- I guess the paragraph with the bold 7.

10 **THE COURT:** Okay.

11 **MR. KILARU:** It says (reading):

12 "Just as in *Hugh v. Candoli*, even if Dr. Limansky
13 established that, as a matter of law, that any one or all
14 of these factors was a cause of Cynthia's death, his
15 negligence could also have been a cause of her death
16 acting in combination with them. Multiple or concurring
17 causes of death do not preclude recovery."

18 **THE COURT:** Right.

19 **MR. KILARU:** And on that theory the court said you
20 needed to give the multiple causes instruction because the jury
21 could have concluded that multiple things were happening at the
22 same time and working together.

23 **THE COURT:** Right.

24 **MR. KILARU:** But that is not what we have here, and so
25 I think --

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1 **THE COURT:** And that gets back to my point -- I mean,
2 I tend to agree with you that that's not what we have here. I
3 think we probably could have had that here. I think the
4 plaintiffs probably could have presented an expert opinion to
5 that effect. I don't know. I'm not the scientist here; but,
6 you know, sort of the understanding I've developed over the
7 course of this case that they probably could have presented
8 such an opinion, but they didn't present that expert opinion.

9 And so, you know, it seems like they probably would be
10 precluded from arguing that the two things combine to cause
11 Mr. Hardeman's NHL.

12 But what about -- I mean, it still doesn't quite answer
13 the concern that I have, the primary concern that I have, which
14 is that if they would have thought -- if they thought that he
15 would have gotten it anyway from the hep C, then that is sort
16 of end of the inquiry for them where it shouldn't be because
17 they should still be asking whether Roundup was a substantial
18 factor in causing his cancer.

19 **MR. KILARU:** I do think that making that the focus of
20 the inquiry is a little concerning given that the plaintiffs
21 ultimately have the burden of proving that it was Roundup, and
22 we do not have the burden of proving that it was hepatitis C.

23 **THE COURT:** Correct.

24 **MR. KILARU:** I think to the extent you have that
25 concern, I mean, I think our top-line position would be that

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1 the instruction that should be given is actually the version --
2 is version two minus the last sentence; but I do think that the
3 last sentence gets, I believe, to the point that you're making.

4 But I think that it's important to have that but-for
5 language in there under California law because it is a but-for
6 state except in the circumstance where you have these sort of
7 multiple causes working together.

8 And I would point out -- I don't know if Your Honor has
9 this case, and I can give you a copy of it -- I'm not
10 necessarily saying that if you had this type of opinion offered
11 by an expert, you know, it would automatically justify a
12 multiple causes instruction. But there's this case *Cooper*.
13 It's 239 Cal.App. 4th 555, and it's a case about the multiple
14 causes instruction. And I think in that case what the expert
15 did --

16 **THE COURT:** Sorry. What was the --

17 **MR. KILARU:** Sorry. It's 239 Cal.App. 4th 555.

18 **THE COURT:** *Cooper versus?*

19 **MR. KILARU:** *Takeda Pharmaceuticals*. I think it's
20 been cited in the design briefs as well so it covers a lot of
21 issues.

22 **THE COURT:** Okay.

23 **MR. KILARU:** But in that case the doctor -- the court
24 found that a multiple causation -- or didn't say that there was
25 error in giving a multiple causes instruction because the

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1 expert didn't rule out a different risk factor. So the
2 plaintiff was saying it was negligence, I believe, or design
3 defect, and the defense was saying that smoking somehow played
4 a role into the cause.

5 And the plaintiff's expert said, "I'm not ruling out
6 smoking. I just think that the design -- the negligence was a
7 greater factor." And that is not what we have here.

8 So, again, not necessarily committing to what I think
9 should happen in that situation, but here you don't even have
10 that. I mean, that might be a situation where something like
11 what Your Honor is concerned about would be a substantial
12 concern; but I think in this case, based on the way it's been
13 presented and the way it's been argued, there really is no
14 evidentiary basis for the plaintiffs to say that you can
15 believe two experts when the two experts said the opposite of
16 each other and sort of defined their methodology in opposition
17 to each other and where the plaintiffs' expert expressly ruled
18 out and said it was impossible for that to have been a cause
19 because anything -- the theory that we offer for how that could
20 have happened was completely eradicated by this treatment.

21 **MS. MOORE:** Your Honor, on the *Limansky* case, it
22 wasn't that anyone offered the testimony that both experts,
23 both the plaintiff and defense experts, could be right. It was
24 that the Court of Appeals -- and this is in that same paragraph
25 that was just read by Monsanto's counsel -- it says that

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1 (reading):

2 "Even if Dr. *Limansky* establishes as a matter of law
3 that any one or all of these factors were a cause of
4 Cynthia's death" -- and those are what the defense
5 raised -- "his negligence" -- what the plaintiff raised --
6 "could also have been a cause of her death acting in
7 combination with them."

8 The plaintiff didn't say they acted in combination with
9 the defense. The defense didn't say they acted in combination
10 with the plaintiff. That's what the court is putting that the
11 jury could make that conclusion when they weighed the evidence
12 of the case. That's why we think that option one is correct
13 under California law.

14 **MR. KILARU:** Obviously I don't have the record in that
15 case, Your Honor, but I'd be surprised if Dr. Limansky had said
16 that it was impossible for the other side's theory to be
17 correct and conclusively ruled it out, which I think is what we
18 have here.

19 **THE COURT:** Well, neither expert said it was
20 impossible. Well, scratch that. Weisenburger did not say it's
21 impossible that it was hep C.

22 **MR. KILARU:** Well, I believe --

23 **MS. MOORE:** Correct.

24 **MR. KILARU:** -- he was impeached on that point; but I
25 think we when we presented the theory -- I mean, it's exact

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1 thing that was read earlier -- he said it is not the
2 substantial factor.

3 **THE COURT:** Yeah.

4 **MR. KILARU:** And when he was presented with the theory
5 of how it could have happened, he said that was false because
6 the cells would have been eliminated. He offered that
7 testimony several times.

8 **THE COURT:** So -- hold on one second. I'm just
9 looking at your brief.

10 **MR. KILARU:** Yes, Your Honor. I think this morning
11 you had asked about cases. We do have some we can point you
12 to, but I'll wait for that.

13 **THE COURT:** Okay. Just give me a second.

14 **MR. KILARU:** Sure.

15 (Pause in proceedings.)

16 **THE COURT:** See, I'm looking -- I'm on your brief at
17 page 4.

18 **MR. KILARU:** Okay.

19 **THE COURT:** And this is part of what has me a little
20 bit tied up in knots. I mean, you're talking about the *Xavier*
21 court; right? And you're saying the court in *Xavier* declined
22 to apply the concurrent independent cause exception in a case
23 involving allegations that the defendant's product caused an
24 increased risk of lung cancer because apart from defendant's
25 alleged misconduct, no other independent event or circumstance

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1 was alleged to be a sufficient cause of this harm.

2 Here there is another independent event or circumstance
3 that the defendant alleges is sufficient to cause this harm;
4 namely, hep C. Right?

5 **MR. KILARU:** Yeah. So I think -- I'm sorry.

6 **THE COURT:** And then you go on and you talk about
7 how -- you know, you said courts -- you cite *Mays* and you say
8 declining to find concurrent independent causes -- declining to
9 find concurrent independent causes because the plaintiff
10 alleged that harm was brought about by a combination of a
11 doctor and a surgeon's negligence.

12 I guess what I'm saying to you here is that it seems like
13 the plaintiffs have not presented evidence that it was caused
14 by a combination of the doctor and the surgeon's negligence.
15 They haven't presented any expert opinion that it was the
16 combination of hep C and Roundup; right?

17 **MR. KILARU:** Yes.

18 **THE COURT:** I know they disagree with that, but I
19 think that's correct. But there has been -- Monsanto has
20 presented evidence of an independent event or circumstance that
21 it alleges is sufficient to cause the harm.

22 And so in that circumstance why wouldn't we say that even
23 if Monsanto is right, that it's sufficient to cause -- that
24 hep C was sufficient to cause the harm, you don't automatically
25 find in favor of Monsanto based on that? You have to ask

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1 whether Roundup was also a substantial factor.

2 **MR. KILARU:** Because I think it goes back to the first
3 point you raised, and I think there's another case that I think
4 is very helpful on that point, but it goes back to the first
5 point you raised because essentially what that means is that
6 whenever the defense doesn't just say it wasn't Roundup and
7 points to something else, that but-for causation is out of the
8 picture, and I think that that would eliminate but-for
9 causation in way too many cases.

10 **THE COURT:** That's the problem.

11 **MR. KILARU:** And so I think *Vecchione*, and I know
12 Your Honor mentioned potentially some concerns with the case,
13 but I think that's one of the cases that really directly
14 addresses this point. Because in that case -- and I have a
15 copy if Your Honor would like.

16 **THE COURT:** No, I have it.

17 **MR. KILARU:** In that case, if you look at -- I have
18 the Westlaw version, so I guess it would be page 5, but if
19 you're looking at asterisked pages it would be page 359.

20 **THE COURT:** Wait. Hold on.

21 **MR. KILARU:** Sure.

22 (Pause in proceedings.)

23 **THE COURT:** Hold on.

24 (Whereupon, a brief pause was had.)

25 **MR. KILARU:** So there is a paragraph that says -- I

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1 think this starts to get at the concern -- The but-for rule,
2 along the rule of finding causation in this state, serves to
3 well to define what is legal causation but fails in the type of
4 situation where several causes concur to bring about an event,
5 and either one of them operating alone could have been
6 sufficient to cause the results.

7 But then at the end of that paragraph it points out why
8 that case is different. Here there was substantial dispute
9 between the parties, but each contends there was a single cause
10 for the death. Either the prenatal distress resulting in DIC
11 was the cause of death -- I think that was the Plaintiff's
12 position -- excuse me, that was the Defense's position -- or
13 the over-heparinization brought it about. That was the
14 Plaintiff's position.

15 And I think this is the next line. I don't even think
16 this is the case here, but I think this is an important line.

17 The Plaintiff expert specifically put the cause as
18 over-heparinization and ruled out DIC as a cause, though he was
19 willing to admit DIC could have been present.

20 And the Court says the Defendant's experts on the other
21 hand contended the cause was DIC and there was no heparin
22 overdose. Under these circumstances the but-for clause is not
23 improper. And I think because in that circumstance you have
24 two completing causes that are being alleged, and it is really
25 not that different if the defense says it just wasn't the thing

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1 you are saying was the cause.

2 **THE COURT:** But the problem is there -- I think the
3 problem with that case is it was disputed whether there was
4 over-heparinization, right, which is an overdose of the drug,
5 as I understand.

6 **MR. KILARU:** Yeah, it is a blood thinner, but yes.

7 **THE COURT:** And so it was disputed whether there
8 was -- this was an overdose of the drug; is that right?

9 **MR. KILARU:** Yes.

10 **THE COURT:** Okay. And there was a dispute about
11 whether there was an overdose of the drug. There wouldn't have
12 been a dispute -- if there had been an overdose of the drug,
13 there would not have been a dispute that it was a cause of the
14 harm, right?

15 **MR. KILARU:** I'm not sure -- at least based on this
16 paragraph, I'm not sure, Your Honor, because I think here the
17 Court is saying the two sides just presented different theories
18 of causation. I think that is the key point.

19 One side it was over-heparinization. The other side may
20 have disputed that, but they said -- it seems like they said
21 almost regardless, there was this other thing that caused it,
22 and for that reason it wasn't the over-heparinization. And
23 that I think was the closest analogy to what we have here. I
24 think it is much closer to -- what we have here is much closer
25 to this.

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1 **THE COURT:** So you think Vecchione is your best case
2 for the proposition that the instructions -- the multiple
3 causation instruction is not appropriate here?

4 **MR. KILARU:** I point to three things, Your Honor.
5 That would be one of them. I think the instruction itself -- I
6 don't mean to be circular here -- but I think the notes on the
7 instruction itself say that you apply -- that but-for is
8 well-acknowledged in California, and the circumstance in which
9 you don't apply but-for causation -- or one of the
10 circumstances in which you wouldn't give that supplemental
11 instruction is where you have multiple forces operating at the
12 same time and independently. I don't think that's what we have
13 here based on the proof we have, and there are cases that sort
14 of cite that point; but I don't think they illuminate it beyond
15 what is in the instruction.

16 **THE COURT:** But -- and that -- I mean, I get your -- I
17 get the point about Vecchione, but multiple forces operating
18 independently, I mean, we do have evidence in the case of
19 multiple forces operating.

20 **MR. KILARU:** Right, but I think --

21 **THE COURT:** And we don't have evidence of them
22 operating in combination.

23 **MR. KILARU:** Right.

24 **THE COURT:** Right?

25 **MR. KILARU:** Yes.

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1 **THE COURT:** But we have evidence that of one force --
2 that one force caused the cancer. And we have evidence that
3 another force the cancer.

4 **MR. KILARU:** I think --

5 **THE COURT:** The jury has to consider all of that
6 evidence together.

7 **MR. KILARU:** And I think they are not -- this is where
8 it gets a little semantic, but I think the difference is they
9 are not operating based on the proof at the same time. One
10 group is -- we are saying it was the hepatitis C. They are
11 saying it was the Roundup. No one is saying the two things
12 were sort of colliding with each other.

13 **THE COURT:** Right.

14 **MR. KILARU:** I think the situation where it is more
15 analogous what you are talking about would be, say, in an
16 asbestos case where there are five products at issue, and each
17 Defendant is saying, Well, I mean, there are five products.
18 You can't say it was mine because there were other products at
19 issue; multiple factors operating at the same time
20 concurrently.

21 But I think it is different from a case like this one
22 where there are two things that are being argued that no one is
23 saying they operated at the same time. We are saying -- you
24 know, they are saying it was Roundup. We are not saying it was
25 Roundup; we are saying it was something else.

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1 **MS. MOORE:** That was the Limansky case, Your Honor.
2 And that case --

3 **THE COURT:** Wait. Wait. Hold on. You said you had
4 three things that you wanted to make sure we focused on.

5 **MR. KILARU:** Yes.

6 **THE COURT:** One was Vecchione. The other was the
7 notes on the instruction.

8 **MR. KILARU:** Yes. And the last was is a case
9 called -- it's an unpublished case so I recognize it has less
10 value for that reason -- but it is a case called *Hudson V Lenz*,
11 and the cite is 2004 Westlaw, 823 492. And in that case there
12 is a discussion of, I think, the concerns that we are talking
13 about here, which is -- I will just read a paragraph, if I
14 could at the end. This is on page star 10. If you have the
15 Westlaw version, it would be on page 8 at the bottom.

16 Were a concurring cause instruction required -- and
17 I guess I should go back a little bit.

18 We are aware of no California authorities holding that the
19 jury must be instructed on concurring causes in a medical
20 malpractice case involving only one actor in a contention by
21 the physician that the disease was the sole cause of
22 Plaintiff's damage.

23 So there was a disease and there was negligent sort of
24 alleged.

25 And the Court continues: We do not agree that such a

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1 broad application of BAJI 377 -- which I think is the
2 predecessor to what we are talking about here -- to medical
3 malpractice action is appropriate. Were a concurring cause
4 instruction required in such instance, it would be necessary in
5 virtually every case in which the Plaintiff claimed that the
6 medical negligence caused the injury or death, while the
7 defense asserted that the damage was the result of a natural
8 disease process.

9 So I think it is the essential same point as in the
10 Vecchione case. And we have cited other cases that make this
11 point generally about how, I think, this exception should not
12 swallow the but-for rule. So those are the points we
13 emphasize.

14 **THE COURT:** Okay. And then can you think of any other
15 way, you know, before I turn to you and your -- the primary
16 authorities you want me to focus on -- the question, again, is
17 if the jury thinks the evidence was really strong for both.

18 **MR. KILARU:** Right.

19 **THE COURT:** Really strong for both. And, you know, is
20 there any language that we could use that would make sure that
21 the jury doesn't just call it a day once they have concluded
22 that the evidence was really strong for hep C?

23 **MR. KILARU:** I think --

24 **THE COURT:** They have to continue to engage in an
25 inquiry about Roundup. That's the basic concern.

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1 **MR. KILARU:** I think the language you have at the end
2 of two gets to that point, but I guess I would say one broader
3 point, which is that I think based on the way the evidence has
4 come in in this case, if the jury believed that the evidence
5 was strong on both sides, we should win because in this case we
6 have said it was one thing. They have said it was another
7 thing. They have the burden of proof.

8 So if the jury can't decide between two alternate
9 competing causes that have been proffered that are both strong,
10 that's actually a reason that we should win.

11 **THE COURT:** But what you are saying is that -- so you
12 are saying that the second sentence of -- sorry, the second
13 sentence of the second paragraph --

14 **MR. KILARU:** Yes.

15 **THE COURT:** -- of the second option --

16 **MR. KILARU:** Yes, twos all around.

17 **THE COURT:** -- sort of gets at this concern. So what
18 if it said -- what if it said, Generally, conduct is not a
19 substantial factor in causing harm if the same harm would have
20 occurred without that conduct. However, if you conclude that
21 Mr. Hardeman has proven that his exposure to Roundup was
22 sufficient on its own to cause his NHL, then you should find
23 for Mr. Hardeman, even if you believe that other risk factors
24 were also sufficient to cause NHL on their own.

25 **MR. KILARU:** I know we are talking about one word, but

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1 I think we would oppose that, Your Honor, because I think first
2 it would suggest that but-for standard -- which I think should
3 ordinarily apply -- maybe shouldn't apply in this case.

4 **THE COURT:** But isn't that the law, that generally the
5 but-for standard does apply?

6 **MR. KILARU:** Right, but I think -- sorry.

7 **THE COURT:** Except in a situation where you have two
8 independent forces that could each on their own have caused the
9 cancer.

10 **MR. KILARU:** Yes. So I think the answer to that is
11 actually -- I think that would be our top-line position; that
12 you actually shouldn't have the second sentence at all because
13 unless you are in -- the second -- you know, twos all the way
14 down -- the second sentence of the second paragraph, because
15 unless you have that type of situation, but-for is the rule.

16 So I understood this second sentence to be Your Honor
17 trying to address that concept. And I think if we had to put
18 our positions in order, I think based on what I said earlier
19 and based on the proof, I think the instruction should be
20 Number 2; and I think it should end without that conduct,
21 because here there have been two competing things offered. And
22 if the jury is sort of equipoised between those two, that means
23 the Plaintiff has not met their burden.

24 But I think that to the extent Your Honor believes some
25 extra language is necessary, I don't think the solution would

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1 be to dilute and suggest that but-for doesn't apply. And I
2 think it might be to add additional language, but my concern is
3 that generally to suggest that we are actually farther away
4 from the baseline but-for cause situation. I think we are
5 there.

6 **THE COURT:** But -- so what would be an alternative
7 that would -- because the problem with the way I have written
8 it, I think, is that Sentence 1 and Sentence 2 seem to be at
9 odds with one another.

10 **MR. KILARU:** I understand that, Your Honor. But I
11 think in some ways the problem with that is the way the
12 evidence has come in in this case because I think what 2 is
13 grappling at is this possibility that the jury could think they
14 were both, and if they are both, then, you know, that doesn't
15 necessarily mean we are off the hook or I suppose it gets maybe
16 at the point that if they think he would have gotten it as a
17 result of hepatitis C, no matter what, they are not going to
18 consider Roundup.

19 But I think that here, really the jury has been given two
20 competing options. It is A or B. And so I think the first
21 sentence is all that is needed. I think this might have been
22 the initial proposal, but I understand that you continued to
23 think about it. But I think it is A or B based on the
24 evidence, based on the testimony of Dr. Weisenburger. So I
25 don't think any additional language is necessary. I think this

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1 probably comes close to getting it at that point, but I don't
2 think that point is live in this case.

3 **THE COURT:** Let me ask you one other quick question
4 here. Hold on.

5 (A brief pause was had.)

6 **THE COURT:** Okay. So let me -- I mean, you know, I
7 wonder if we are dancing on the head of a pin here -- but what
8 if it said Conduct is not a substantial factor in causing harm
9 if the same harm would have occurred without that conduct.
10 Okay? That first sentence.

11 And then what if it then said, With respect to Roundup and
12 hep C, however, if you conclude that either would have caused
13 Hardeman's NHL alone -- if you conclude by a preponderance of
14 the evidence that either would have caused Hardeman's NHL
15 alone, you must find for Hardeman because there can be more
16 than one substantial factor in causing someone's disease.

17 **MR. KILARU:** Your Honor, I think that they have -- did
18 you say would have or could have?

19 **THE COURT:** Would have.

20 **MR. KILARU:** I think -- I don't think -- I'm not sure
21 that that works, Your Honor, for I think the same reasons that
22 we have been talking about here because the jury has been told
23 it is either A or B. And I think if they think it could be
24 either A or B, the Plaintiff shouldn't win in that circumstance
25 because the Plaintiff has to prove in this case based on the

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1 proof that it was Roundup.

2 I mean, what this instruction does is basically tell the
3 jury, if you can't decide between two risk factors -- I think
4 the concern is it basically tells the jury, If you think there
5 is strong evidence on both sides, then Mr. Hardeman wins. And
6 I don't think that's the way the burden of proof operates in
7 this case especially given that they have been giving sort of
8 competing views of the --

9 **MS. MOORE:** But that is ignoring the first paragraph,
10 Your Honor, which is Mr. Hardeman must prove by a preponderance
11 of the evidence that Roundup was a substantial factor in
12 causing his non-Hodgkin's lymphoma. They still have to show --
13 they still have to find that Roundup was a substantial factor.

14 I mean, again, I just want to be very clear. Our position
15 is Option 1 is the correct position under California law, but I
16 don't think what Monsanto's attorney just argued right then is
17 accurate because that is taken care of in paragraph 1.

18 **THE COURT:** Okay. So what I want to hear from you now
19 is do you have any other argument -- I mean, as of now where we
20 are is that the Plaintiffs are -- may not argue to the jury
21 that the two things combined to cause the cancer because there
22 is not an expert opinion to support that, and there is not
23 really even any scientific evidence to support that.

24 And so Task Number 1 for you is to talk me out of that.

25 **MS. MOORE:** Okay.

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1 **THE COURT:** And then task Number 2 is to get back to
2 this instruction and figure out if we -- if we can have -- if
3 we should be having some concurrent independent cause-type
4 instruction, as opposed to a concurrent independent cause,
5 which is what you are now arguing.

6 **MS. MOORE:** I understand, Your Honor.

7 As to the first question, I do have Dr. Portier's
8 testimony pulled up now. This appears on line -- I'm sorry,
9 page 156, and it is lines -- let's see -- starting at line 18,
10 and it goes on through page 157.

11 Dr. Portier was asked about the George study in particular
12 and said: Is that consistent with what you are seeing in the
13 rodent data for glyphosate? And he says, Partially. Obviously
14 it is addressing the question of promotion, which means that
15 you already have these initiated cells. Living can cause
16 mutations to occur. And so it is conceivable that glyphosate,
17 all of these tumor findings we are seeing here are glyphosate
18 promoting out already effects.

19 And he continues on --

20 **THE COURT:** That was his testimony?

21 **MS. MOORE:** This is Dr. Portier's testimony.

22 **THE COURT:** It is conceivable?

23 **MS. MOORE:** Yes.

24 **THE COURT:** Okay.

25 **MS. MOORE:** And then he continues on, Your Honor. I

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1 can keep going if you want me to, but -- he says: Promoting
2 out already effects. He goes, I don't think it is likely, but
3 it is conceivable that's the case. The initiation promotion
4 study is simply showing you that one system --

5 **THE COURT:** Wait. You said -- wait. Sorry. Could
6 you read that one more time?

7 **MS. MOORE:** Sure. He goes, I don't think it is likely
8 but it is conceivable that's the case.

9 **THE COURT:** What is conceivable that that's the case?
10 Can you refer back to the testimony that he is saying is not
11 likely but conceivable?

12 **MS. MOORE:** Yes. That is the initiation -- the
13 question of promotion, Your Honor.

14 **THE COURT:** Okay.

15 **MS. MOORE:** The very first part of his answer is it is
16 addressing the question of promotion.

17 **THE COURT:** So he is saying he doesn't think it is
18 likely that it is promoting?

19 **MS. MOORE:** He says it is conceivable that's the case,
20 and he continues. He says: The initiation promotion study --

21 **THE COURT:** Wait, wait. You just skipped over
22 something. It is -- okay. Read it again.

23 **MS. MOORE:** Sure. Okay. I will start at the very
24 beginning, Your Honor.

25 **THE COURT:** Yeah.

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1 **MS. MOORE:** Okay. Let me back up.

2 This is the very beginning of his answer, and it starts at
3 156, line 23. Partially.

4 Let me read the question because I think that's part --
5 156, 18: Well, then let me ask you this question. The George
6 study, this positive finding there, what is that consistent
7 with what you are seeing in the rodent data for glyphosate?

8 And the answer is: Partially. Obviously it is addressing
9 the question of promotion, which means that you already have
10 these initiated cells. Living -- I don't know why it says
11 living here -- living can cause mutations to occur. And so it
12 is conceivable that glyphosate, all of these tumor findings we
13 are seeing here are glyphosate promoting out already effects.
14 I don't think it's likely but it is conceivable that's the
15 case.

16 And then he continues: The initiation promotion study is
17 simply showing you that in one system, the skin, glyphosate has
18 this ability to promote out cancer. That is all it really
19 means.

20 So --

21 **THE COURT:** So there is no expert testimony that would
22 support an argument -- I mean, if that's all you have --

23 **MS. MOORE:** No, I don't, Your Honor.

24 **THE COURT:** Okay.

25 **MS. MOORE:** If you continue on to page 157 at line 16,

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1 he is asked: Does it have any influence -- meaning it, the
2 George study -- have any influence on whether or not it could
3 promote a mutation to lead to cancer?

4 And Dr. Portier's answer is: It certainly increases the
5 chances. That might be the case because now you have evidence
6 to suggest glyphosate can do that. But I would want to see a
7 lot more evidence before I would go there and start thinking
8 about that. There are initiation promotion studies you can do,
9 and he continues on for a while about initiation promotion
10 studies.

11 **THE COURT:** Okay. So what you just read me is sort of
12 the opposite of evidence to support the argument that you are
13 proposing to make. I mean, it's an expert who is not willing
14 to offer any sort of opinion remotely close to the argument
15 that you are proposing to make, putting -- even putting aside
16 the fact that it was just general causation testimony and not
17 specific causation and not related to hep C at all.

18 So if that's your evidence to support your argument that
19 Roundup and hep C combined to cause his cancer, you cannot make
20 that argument at closing.

21 **MS. MOORE:** I understand, Your Honor. I would just
22 reserve because that was on the fly, me just searching quickly
23 on the iPad to find those two references. I would want to go
24 back and look at Dr. Portier's testimony.

25 **THE COURT:** That's fine. But the ruling now is that

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1 you cannot make that argument. So as you are preparing your
2 closing argument tonight, you cannot make that argument.

3 **MS. MOORE:** I understand, Your Honor.

4 Let me go back to the jury instruction issue I think
5 regardless of the George study and Dr. Portier's testimony on
6 that, that California law is very clear that this is a
7 substantial factor, and that the but-for does not apply here.
8 And that's why I cited the Limansky case, Your Honor.

9 And I would just point out that in that case what happened
10 at the trial level is that the jury found -- and this was a
11 medical malpractice case --

12 **THE COURT:** Is this something -- are you citing to the
13 Court of Appeals' opinion in this case?

14 **MS. MOORE:** Yes, Your Honor.

15 **THE COURT:** Okay. So where are you describing from?

16 **MS. MOORE:** Well, Your Honor, this is at the very
17 beginning the summary of that, and it's -- the first paragraph
18 it starts with This is a medical malpractice case.

19 **THE COURT:** Okay.

20 **MS. MOORE:** Okay. And if you go -- it is the
21 second-to-the-last sentence in that paragraph. It says:
22 Following a trial during which the trial Court refused to give
23 a jury instruction on concurrent causation, the jury found that
24 while Dr. Limansky was indeed negligent in his care of Cynthia,
25 such negligence was not a cause of her death.

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1 That is the exact worry that we have in this case,
2 Your Honor, that you have pointed out. And that is the jury
3 could absolutely say, you know what, Roundup causes cancer.
4 Roundup cause was a substantial factor in Mr. Hardeman's, but
5 also we think hepatitis C was a substantial factor based on the
6 testimony presented by the Defendant.

7 **THE COURT:** And he would have gotten -- he would have
8 gotten cancer from hep C even if Roundup had not been involved.

9 **MS. MOORE:** That's right. That's right.

10 And that's exactly what happened here. It is the same
11 analogy, Your Honor. And what the Court of Appeals said, if
12 you go onto the next paragraph -- because we conclude in
13 that -- in this case, in which causation was the most critical
14 contested issue -- and here, Your Honor, it is the only issue
15 in Phase One -- and in which there was substantial evidence of
16 multiple causes of Cynthia's death, the trial court improperly
17 instructed the jury with respect to concurrent causation, and
18 because such error was clearly prejudicial, we reversed and
19 remand for a new trial.

20 **THE COURT:** And that language -- I mean, I was sort of
21 floating to the side of how to limit this concept and limit it
22 only to situations where everybody agrees that the two things
23 caused it, or the two things were operated to cause it, but
24 this -- this language -- and we never know how careful the
25 Courts are being with their language -- but this is -- this

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1 sentence -- this paragraph stands for the proposition that when
2 there is substantial evidence to support both. And so it
3 does -- I will say that it does seem like if that is the
4 rule -- if the rule is that when there is substantial evidence
5 to support two separate causes, you don't give the but-for
6 instruction and you give the multiple -- you give some
7 version --

8 **MS. MOORE:** Exactly.

9 **THE COURT:** -- version of independent causation, that
10 does seem to be the exception that swallows the rule in some --
11 to some degree, which is a matter of concern. But that is what
12 the Court seems to be thinking.

13 Although, one of the things I want to do I want to take a
14 break --

15 **MS. MOORE:** Sure.

16 **THE COURT:** -- and I want to go back and look at all
17 of the things that you tell me I should really focus on. And
18 so is there anything else other than this case that you want me
19 to really focus on?

20 **MS. MOORE:** I just wanted to point out in this
21 particular case -- and this was something, Your Honor, that you
22 highlighted, too, when you go to Section -- it is Number 2, if
23 you flip over, you will see the head note -- it is not a head
24 note. Sorry. It says Number 2, the trial Court irrevocably
25 refused to give the Plaintiff's requested instruction on

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1 concurrent causation.

2 Do you see that?

3 **THE COURT:** I'm sorry. Are you in the standard of --
4 are you in the same case?

5 **MS. MOORE:** Yes, I am, Your Honor. It is after the
6 standard of review. So if you go down, you see where it says
7 Number 2, The trial court erroneously --

8 **THE COURT:** Oh, yeah. Okay.

9 **MS. MOORE:** And that beginning paragraph there, this
10 was what, you know, they really -- they honed in on. And they
11 said one of the critical issues we resolved by the jury was
12 causation, which, again, this is the only issue here. So it is
13 extremely critical to the Plaintiff, and it would be
14 prejudicial not to have this multiple causation instruction.

15 And so they listed out initially four different arguments
16 that the Defendant made, that the doctor made in the
17 malpractice case.

18 Here we heard from Dr. Levine today. She said that --
19 first -- she said first the primary cause in her opinion was
20 hep C. The secondary cause was hep B. So she gave multiple
21 causes on the stand today.

22 Then it continues and it says, as the Court pointed out,
23 for purposes of this appeal, Plaintiffs concede that these
24 factors may have contributed to Cynthia's death.

25 Again, what our position is, Your Honor, it doesn't have

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1 to all come from the Plaintiff. It's what is the evidence that
2 is being presented to the jury. And when they go back to that
3 jury room, the evidence that they have heard in the case is
4 that Roundup can cause cancer, and that Roundup is a
5 substantial factor in causing Mr. Hardeman's cancer. And they
6 have also heard today, hepatitis C and hepatitis B were likely
7 causes of his NHL.

8 And so to make it one or the other puts the Plaintiff
9 behind the eight-ball, and it is very prejudicial to us. And
10 that's why the multiple causation instructions should apply.

11 **THE COURT:** Okay. So anything else you want me to
12 really focus on when I go back for a break right now?

13 **MS. MOORE:** No, Your Honor.

14 **THE COURT:** Okay. So what I want to do is -- I
15 think -- I mean, obviously you are going to want to get an
16 answer from me soon on this question so you can start working
17 on your closings. So what I would propose to do, if you don't
18 mind, is take like a half an hour break, go back and really
19 focus on these things that you want to make sure that I focus
20 on. And then I will come back, I will ask you -- if I have
21 additional questions, I will ask you. And otherwise I will
22 just let you know what the answer is.

23 **MR. KILARU:** Your Honor, before you go, not on the
24 law, but just one suggestion and one -- just on a point you had
25 raised earlier.

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1 **THE COURT:** Sure.

2 **MR. KILARU:** So one suggestion I think on Option 2,
3 which you already have, would be to insert before -- so I guess
4 in the second paragraph of Option 2, after the but-for
5 sentence, one proposal would be to insert something like You
6 have heard evidence about risk factors other than Roundup. And
7 then say If you conclude that, which I think sort of grounds in
8 this idea that there are a couple risk factors potentially
9 circulating around here. That is just a suggestion.

10 I don't know if Your Honor is still considering this, but
11 just one point on the language you had proposed earlier
12 about -- you said something like, I believe, with respect to
13 Roundup and hepatitis C, If you conclude that either would have
14 caused Mr. Hardeman, I think one concern we have about that
15 phrasing is that if they conclude that hepatitis C would have
16 technically, one of the either, they found that that caused
17 Mr. Hardeman's NHL, and the instruction would tell them to find
18 for Mr. Hardeman in that circumstance. So I think at a
19 minimum, I don't think that phrasing would work for that
20 reason.

21 **THE COURT:** I think I understand that, but what I will
22 do is I will come out and give you a chance to pour over
23 language before we --

24 **MR. KILARU:** Sure.

25 **MS. MOORE:** That would be great, Your Honor.

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1 And the only thing I would add to that is when he refers
2 to risk factors, the testimony in the case is that -- and
3 Dr. Levine admitted this today -- a risk factor is not the same
4 as saying the cause, so I would have some concern there. I
5 don't think when you are talking about multiple causation
6 instruction you could then just say "risk factors."

7 **THE COURT:** Well, I mean, that's what -- I think
8 that's actually a good point. And it may argue for -- if we go
9 with some version similar to Option 2, what that might mean is
10 that at the bottom there where I say Then you should find for
11 Mr. Hardeman, even if you believe that other risk factors were
12 also sufficient, it should just say other factors were also
13 sufficient probably, so as to avoid that confusion.

14 **MS. MOORE:** I don't know if I would agree to just the
15 word factor, Your Honor, when we are talking about causation,
16 but --

17 **THE COURT:** You are saying it should be if you believe
18 that other causes for --

19 **MS. MOORE:** Causes, yes. Because risk factor is not
20 the same as a cause.

21 **THE COURT:** But factor is -- the center piece of the
22 instruction is factor, substantial factor.

23 **MS. MOORE:** Let me look at 431, Your Honor.

24 I mean, 431 says Cannot avoid responsibility just because
25 some other person, condition or event was also a substantial

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1 factor in causing the Plaintiff's harm.

2 **THE COURT:** Yeah. But the problem with that language
3 is that it's -- it's -- that seems to contemplate the type of
4 argument that you haven't made in this case, which is that they
5 combine to -- that's why I'm trying to find something that is
6 more specific to the argument that you can potentially make,
7 subject to my pouring over this material during the break,
8 which is that they are sort of independent causes.

9 I mean, that's -- it seems to me the only thing you have
10 potentially left yourself room to do is make that type of
11 argument, not make the argument that they have combined to
12 cause his cancer.

13 **MS. MOORE:** And I believe that is the Limansky case,
14 Your Honor.

15 **MR. KILARU:** Thanks, Your Honor.

16 **THE COURT:** Okay. Why don't we plan on coming back at
17 5:00.

18 (Recess taken at 4:32 p.m.)

19 (Proceedings resumed at 5:28 p.m.)

20 (Proceedings were heard out of the presence of the jury:)

21 **THE COURT:** I see it's warmed up in here a little bit.
22 Yeah, our air and heat goes off at 5:00 o'clock. That's
23 ridiculous.

24 Okay. So I think option one is off the table for all the
25 reasons we discussed. I think it's not appropriate to give an

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1 instruction that would allow them to -- that would allow the
2 jury to conclude that the cause -- in the two things combined
3 to cause the cancer in light of the way the evidence has come
4 in, and the plaintiffs can't argue that.

5 However, I wanted to give you one more chance to respond
6 to one thing, but I am pretty strongly inclined to give option
7 two with a couple of tweaks. One is to add the word
8 "generally" as I suggested before. The second tweak would be
9 to delete "risk" in the bottom line. So it would just say
10 "other factors were also sufficient to cause his NHL." And
11 then I would add "on their own" to that.

12 So it would read (reading):

13 "Generally, conduct is not a substantial factor in
14 causing harm if the same harm would have occurred without
15 that conduct. However, if you conclude that Mr. Hardeman
16 has proven that his exposure to Roundup was sufficient on
17 its own to cause his NHL, then you should find for
18 Mr. Hardeman even if you believe that other factors were
19 also sufficient to cause his NHL on their own."

20 And I think probably the thing that came pretty close to
21 solidifying this for me was looking back at the illustration in
22 the restatement that came up -- it was cited in a couple of the
23 cases that you cited, so I'm looking at page -- I'm looking at
24 page 379, Section 27 -- right? -- subsection (e), "Alternative
25 Causes."

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1 **MR. KILARU:** Sorry. Can you -- 379?

2 **THE COURT:** Sorry.

3 **MR. KILARU:** No, it's fine.

4 **THE COURT:** Page 379.

5 **MR. KILARU:** Okay.

6 **THE COURT:** And it's the section on -- it's the
7 chapter on factual cause, Section 27; right? And then
8 subsection (e) talks about alternative causes. Feel free to
9 pull it up if you want.

10 **MR. KILARU:** Yeah.

11 **THE COURT:** Yeah, take your time.

12 (Pause in proceedings.)

13 **MR. KILARU:** Is it the second or the third,
14 Your Honor?

15 **THE COURT:** The second illustration.

16 **MR. KILARU:** Okay.

17 **THE COURT:** Oh, which restatement?

18 **MR. KILARU:** Yeah.

19 **MS. MOORE:** The second, I think.

20 **MR. KILARU:** I think you might have cited both, but I
21 could be wrong about that.

22 **THE COURT:** Good question. Let me -- hold on one
23 second.

24 (Pause in proceedings.)

25 **THE COURT:** I'm pretty sure this is the third --

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1 **MR. KILARU:** Okay.

2 **THE COURT:** -- but let me just stare at it for a
3 second here.

4 (Pause in proceedings.)

5 **THE COURT:** Yeah, I'm, like, 99 percent sure it's the
6 third.

7 **MR. KILARU:** Is this the causal sets piece?

8 **THE COURT:** No.

9 **MR. KILARU:** Okay. Oh, sorry. I was looking at 26.

10 (Pause in proceedings.)

11 **MS. MOORE:** It's the third, Your Honor.

12 **THE COURT:** So there is -- so the subsection right
13 after it, subsection (f), is the paragraph about causal sets.

14 **MR. KILARU:** Okay. Got it.

15 **THE COURT:** But then subsection (e) is about
16 alternative causes, which is I think the situation we're facing
17 here; right? And there's Illustration Number 2, and -- did you
18 find it?

19 **MR. KILARU:** I don't have it. We're trying to pull it
20 up.

21 **THE COURT:** Take your time. Take your time.

22 **MR. KILARU:** Okay.

23 (Pause in proceedings.)

24 **MR. KILARU:** Your Honor, we'll keep looking, but I
25 don't want to keep you and everyone here.

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1 **THE COURT:** Well, let me read it to you.

2 **MR. KILARU:** Yeah, that would be totally fine.

3 **THE COURT:** So subsection (e), it's titled
4 "Alternative Causes."

5 **MR. KILARU:** Okay.

6 **THE COURT:** And it says that (reading):

7 "In some cases, a defendant may contend that the acts
8 of another were the cause of the plaintiff's harm and,
9 thus, the defendant's conduct, tortious conduct, was not a
10 cause of the plaintiff's harm." Okay? "Whether that
11 claim implicates the rule in this section depends on
12 whether the other forces" -- here's I think some key
13 language -- "depends on whether the other forces were
14 operating and sufficient to cause the harm
15 contemporaneously with the defendant's tortious conduct."
16 Okay?

17 **MR. KILARU:** Uh-huh.

18 **THE COURT:** So whether the other forces were operating
19 and sufficient to cause the harm contemporaneously with the
20 defendant's tortious conduct. So as applied here, that would
21 mean the defendant's tortious conduct, or allegedly tortious
22 conduct, is inflicting Roundup upon Mr. Hardeman; right? And
23 the -- but the other force that may have been operating and may
24 have been sufficient to cause the harm was the hepatitis C.
25 Okay?

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1 **MR. KILARU:** Uh-huh.

2 **THE COURT:** And in that sort of situation, the idea is
3 that you instruct the jury on that, you instruct the jury on
4 the alternative independent causes. And the example that's
5 given is, you know, there's -- you know, an infant born with a
6 birth defect and the question is whether the company's drug
7 caused the birth defect or whether a genetic condition caused
8 the birth defect. And one side presents sufficient evidence
9 that the drug caused the birth defect and the other side
10 presents sufficient evidence that the genetic condition caused
11 the birth defect; right? And so the illustration goes on to
12 say (reading):

13 "The fact finder must determine if the drug, absent
14 the genetic condition, would have caused the birth defect.
15 The fact finder must also determine if absent the drug,
16 the genetic condition would have caused the birth defect.
17 If the fact finder determines that either the drug or the
18 genetic condition would have, in the absence of the other,
19 caused the birth defect at the same time, then each is a
20 factual cause pursuant to this section."

21 So, you know, that is -- it seems to me that although the
22 law overall is very muddled in this area, I think the courts
23 are confused and the California courts have not offered a
24 terribly definitive statement on this question. The California
25 courts do look to the restatement, and it seems to me that the

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1 restatement -- that example provided in the restatement kind of
2 highlights why I have this concern about this case and why this
3 type of instruction may well be appropriate in this case.

4 So that's kind of my tentative view at this point. I want
5 to give you one more chance to address that.

6 **MR. KILARU:** Sure. And I understand the concern based
7 on what's here, Your Honor. I guess I would draw attention to
8 the last sentence of that --

9 **THE COURT:** Yes.

10 **MR. KILARU:** -- which is (reading):

11 "If the fact finder determines that either the drug
12 or the genetic condition played no role in the birth
13 defect, then the other's causal status is determined under
14 but-for."

15 **THE COURT:** But we don't -- yes. So I agree with
16 that.

17 **MR. KILARU:** And what I would say on that is as
18 follows:

19 I know that much of the evidence has focused on the sort
20 of the clash between Roundup and hepatitis C, and I know that
21 that has been really what the experts have talked about more
22 than anything else, but I think we've heard Dr. Levine testify
23 today that in 90 percent of the cases you can't determine a
24 cause. I suspect Dr. -- I actually think Dr. Arber testified
25 to the same thing as well.

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1 So I think the concern about saying that both things are
2 in the mix is that if the jury concludes both are in the mix
3 but ultimately because I can't determine what it is, I think
4 this is a situation where it was neither, this is one of those
5 idiopathic cases where you can't determine the cause, this
6 would still instruct that they should find us liable, and
7 that's why I think but-for has to be the answer here. It's not
8 just because there's A versus B. There's also this possibility
9 that all the experts have discussed about there not being a
10 cause at all or at least the cause being unknown, and that is
11 part of our defense.

12 **THE COURT:** But the instruction doesn't say that. I
13 mean, the -- I think idiopathic -- most of the evidence I think
14 established that idiopathic is not actually a factor; right?

15 **MR. KILARU:** Right.

16 **THE COURT:** It's if you can't identify the factor,
17 then it's idiopathic; right?

18 **MR. KILARU:** Right. Then I think that would put you
19 in the last sentence; right?

20 **THE COURT:** What?

21 **MR. KILARU:** I'm sorry. I didn't mean to cut you off.

22 **THE COURT:** No. I think you were making the same
23 point I was making. Go ahead.

24 **MR. KILARU:** Okay. I was going to say I think that
25 would put you in the last sentence of this paragraph where I

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1 think it says but-for would apply.

2 **THE COURT:** But why -- I don't understand. I'm not
3 sure I -- I'm not sure I understand what you're saying. What
4 is wrong -- in light of what I've said, in light of the fact
5 that the fact finder needs to make a determination about, you
6 know, whether it was this or that or whether they both
7 independently could have done it, what's wrong with (reading):

8 "Generally conduct is not a substantial factor in
9 causing harm if the same harm would have occurred without
10 that conduct; however, if you conclude that Mr. Hardeman
11 has proven that his exposure to Roundup was sufficient on
12 its own to cause his NHL, then you should find for
13 Mr. Hardeman even if you believe that other factors were
14 also sufficient to cause his NHL on their own" or "also
15 sufficient on their own to cause his NHL"?

16 I mean, what about that precludes the jury from saying it
17 was idiopathic and, therefore, I'm concluding that Hardeman has
18 not proven that Roundup caused his cancer?

19 **MR. KILARU:** Because I think it sort of frames for the
20 jury that, you know, you have two different potential causes,
21 and I know that is what a lot of the discussion has talked
22 about; and I think what that might do -- the danger of that
23 language that I perceive is that if the jury -- if the jury
24 says it's either A or B and I know for sure it was one of them,
25 then I think that language is helpful. But if the jury thinks

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1 it's A or B and, you know, I kind of agree with our doctors and
2 I can't figure out whether it's A or B and so it shouldn't be
3 either, I don't know that this language leaves open the
4 possibility for that juror to still say "Even though I think
5 Roundup could have been sufficient in the abstract, because I
6 can't determine which of the two it is because I think it's
7 more likely to be neither," I think this might still lead them
8 to say Roundup was the cause in that circumstance.

9 **MS. MOORE:** Your Honor, I don't think that's what it
10 says, though. It says has -- we still have to prove that his
11 exposure to Roundup was sufficient on its own.

12 **THE COURT:** I mean, don't -- let me -- let's back up
13 from the issue of idiopathy --

14 **MS. MOORE:** Idiopathic.

15 **THE COURT:** Idiopathy?

16 **MS. MOORE:** Idiopathy.

17 **THE COURT:** -- for just a quick second, and let me ask
18 you this question.

19 This example that I just read to you -- okay? -- birth
20 defect or genetic abnormality, don't you think the instruction
21 that I'm proposing here would be appropriate for that
22 situation?

23 **MR. KILARU:** If they were just the two things, yes, I
24 think that that's what this is getting at, if there's option A
25 or option B and there's nothing else in the mix.

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1 **THE COURT:** Okay.

2 **MR. KILARU:** This is what I think this is sort of
3 envisioning. It's either A or B is I think the example that's
4 being offered here.

5 **THE COURT:** But if there were -- if it was A, B, or C,
6 why wouldn't --

7 **MR. KILARU:** It's not as much the C point, Your Honor.
8 It's in this example, one side is saying it was absolutely -- I
9 think as I understand the example, one side is saying it was
10 absolutely A --

11 **THE COURT:** Right.

12 **MR. KILARU:** -- and the other side is saying it was
13 absolutely B.

14 **THE COURT:** Right.

15 **MR. KILARU:** And so in that circumstance you sort of
16 evaluate A versus B.

17 **THE COURT:** Right.

18 **MR. KILARU:** I guess the point I'm making is I don't
19 think our argument is just going to be it was hepatitis C. I
20 think we're entitled to argue it wasn't Roundup and the cause
21 may just be unknown.

22 **THE COURT:** Right.

23 **MR. KILARU:** And I don't think that the way -- I think
24 the concern with this example is it doesn't account for those
25 possibilities. This example is a situation where the only

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1 thing we were coming in and saying is it was hepatitis C.

2 **THE COURT:** I don't -- I guess I'm not seeing that
3 because -- I mean, I would certainly be open to tweaking the
4 language to address that concern, but I guess I'm not seeing
5 that concern because what you're saying is -- you know, again,
6 you've got the first paragraph, which says "To win, he has to
7 prove by a preponderance of the evidence that Roundup was a
8 substantial factor."

9 **MR. KILARU:** Could I offer a suggestion that I think
10 may get at this?

11 **THE COURT:** Yes.

12 **MR. KILARU:** Okay. What if we added to the end "If
13 you find that Roundup was not sufficient on its own to cause
14 his NHL, then you must find for Monsanto."

15 **THE COURT:** Well, that statement does not seem
16 objectionable in any way. It's just a question of whether it
17 is repetitive of what's already in the instructions.

18 **MS. MOORE:** Your Honor, I think it's repetitive from
19 the first sentence in that paragraph.

20 **MR. KILARU:** Well, I think that's the -- oh, sorry.
21 Go ahead.

22 **MS. MOORE:** Yeah, I just was going to say, Your Honor,
23 I understand --

24 **THE COURT:** I'm sorry. I think I see. Let me keep
25 this train of thought.

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1 **MS. MOORE:** Okay.

2 **THE COURT:** I think I see what you're saying. So
3 generally it's not a substantial factor in causing harm if the
4 same harm would have occurred without that conduct; however, if
5 you conclude that Mr. Hardeman has proven that his exposure to
6 Roundup was sufficient on its own to cause NHL, then you should
7 find for Hardeman even if you believe that other factors were
8 also sufficient to cause his NHL on their own. And then you're
9 saying there should be a sentence that says, "However, if you
10 conclude that it was not sufficient on its own, you must find
11 for Monsanto."

12 **MR. KILARU:** Yes.

13 **MS. MOORE:** And, Your Honor, now we've gone way past
14 what the model instruction is, and I understand the Court's
15 ruling on option one versus option two and I don't want to
16 revisit that. I do want to make sure it's very clear that our
17 position is that -- the plaintiff's position is it should be
18 option one. We're objecting to option two in its entirety.
19 But --

20 **THE COURT:** Wait a minute. When you say you're
21 objecting to option two in its entirety, you're not saying that
22 I should just give the standard 430 with the but-for sentence;
23 right?

24 **MS. MOORE:** That's correct.

25 **THE COURT:** You're saying so surely you would prefer

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1 option two to the standard instruction with the but-for
2 sentence; right?

3 **MS. MOORE:** Right. The but-for sentence meaning the
4 conduct is not a substantial factor?

5 **MR. KILARU:** The bracketed language.

6 **THE COURT:** Yes.

7 **MS. MOORE:** That's the sentence that we're objecting
8 to, Your Honor (reading):

9 "The conduct is not a substantial factor in causing
10 harm if the same harm would have occurred without that
11 conduct."

12 **THE COURT:** Right.

13 **MS. MOORE:** That's what we're objecting to.

14 **THE COURT:** And what I've proposed to add is
15 "generally" to that.

16 **MS. MOORE:** And I understand the Court's ruling. I
17 just want to note that objection.

18 **THE COURT:** Sure.

19 **MS. MOORE:** But then to go and to add an additional
20 sentence and another "however," I think that's going to create
21 a lot of jury confusion, Your Honor, because they're going to
22 read this first sentence, the but-for sentence, the conduct,
23 and then you've got "however," and I think the way you've
24 tweaked it explains that -- again, we've objected to it but I
25 understand what you've done here -- but I don't think we then

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1 continue on by adding additional language. I think that's
2 where it's going to get really confusing.

3 **MR. KILARU:** Your Honor, could I propose on that, I
4 don't think this will address the objection, but just dropping
5 the however's? I mean, I think if you drop the however's, you
6 have a general statement qualified by the word "generally" and
7 then sort of instructions on how to apply that in two
8 circumstances that could be present during deliberations.

9 **THE COURT:** And your concern is that it does -- you
10 know, it sort of covers one specific scenario --

11 **MR. KILARU:** Right.

12 **THE COURT:** -- which is you find it's either
13 sufficient on its own.

14 **MR. KILARU:** Right.

15 **THE COURT:** But it sort of hasn't targeted the other
16 scenario, which is you find that Roundup is not sufficient on
17 its own.

18 **MR. KILARU:** Yeah.

19 **THE COURT:** I get that concern. So here's what the
20 ruling is going to be. I'll go back -- I'm going to go back
21 and do some wordsmithing, and if anybody -- you know, and I'll
22 file something tonight; and if anybody wants to file an
23 additional concern about the wordsmithing that hasn't already
24 been raised here --

25 **MS. MOORE:** Okay.

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1 **THE COURT:** -- I mean, you've preserved your
2 objections --

3 **MS. MOORE:** Thank you, Your Honor.

4 **THE COURT:** -- but if you have an additional
5 wordsmithing concern and you want to file something on that,
6 you're free to do so.

7 But the instruction that I will put out, I suppose -- you
8 know, I will put it out soon. I will do it -- put it out soon;
9 and I suppose that while I'm drafting it, I reserve the right
10 to change my mind again.

11 But what I'm going to do, what I'm 99 percent sure I'm
12 going to do is provide option two as I read it to you all just
13 a second ago, including the word "generally" and all that, and
14 then add the concept that Mr. Kilaru was suggesting, and that
15 that will be the causation instruction.

16 **MR. STEKLOFF:** And can --

17 **MS. MOORE:** And, Your Honor, I'm sorry. So we would
18 just ask that if you're doing that, that you keep that first
19 "however" as you read it to us.

20 **THE COURT:** Okay. And I'll wordsmith it --

21 **MS. MOORE:** Okay.

22 **THE COURT:** I'll wordsmith it to make sure it's not --
23 it doesn't create undue confusion. I mean, I understand your
24 point that it seems like a "however" is appropriate there, but
25 I'll do some word submitting on it.

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1 **MS. MOORE:** Right. I think the "however" following
2 the first sentence is appropriate. I'm not so sure that saying
3 "however" the second time is -- I think it's going to raise
4 confusion.

5 **THE COURT:** I think the point is that it seems
6 appropriate to call out both concepts, and that's what I will
7 do, and I'll do some wordsmithing to make that work.

8 **MS. MOORE:** Okay. We'll look at that. Thank you,
9 Your Honor.

10 **MR. STEKLOFF:** And on the current sentence, without
11 the one that we've just proposed adding, can I -- you read this
12 both ways where you put "other factors were also sufficient," I
13 think the "on their own" should come after "sufficient" because
14 it's consistent with the prior line.

15 **THE COURT:** Yeah.

16 **MS. MOORE:** That's fine, Your Honor.

17 **THE COURT:** Okay.

18 All right. So that's jury instructions.

19 And then we've covered a major issue in terms of what can
20 be argued and what cannot be argued, and that is, just to
21 repeat, the plaintiffs are not permitted to argue that the
22 two -- that two -- that any combination of factors combined to
23 give Mr. Hardeman his cancer. So that's one ground rule for
24 closing arguments, no combination arguments.

25 **MS. WAGSTAFF:** May I go next, Your Honor?

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1 **THE COURT:** You may, although can I raise one more
2 that's on my mind just before I forget it?

3 **MS. WAGSTAFF:** Sure.

4 **THE COURT:** This is an issue that I had not focused on
5 until we got to -- until Dr. Mucci's testimony, but Dr. Ritz
6 testified that the numbers in the De Roos 2003 study would have
7 changed if the IARC had classified glyphosate as a probable
8 carcinogen; and if I remember correctly, she testified that the
9 weight that would have been assigned to glyphosate in the
10 De Roos analysis would have been .8 or .9.

11 That was completely made up. That was -- as far as I can
12 tell, that was completely junk science; and had I sort of
13 understood the lack of basis for that testimony, I would have
14 excluded it.

15 But after sort of looking carefully at the De Roos study
16 and the explanation of the values that were assigned and how
17 they -- how different values were assigned to different
18 substances or pesticides, I don't see how that it was remotely
19 appropriate for Dr. Ritz to testify to that. And so my
20 tentative view is that, you know, you can't mention that in
21 closing argument.

22 **MS. WAGSTAFF:** And I wasn't going to mention that,
23 Your Honor.

24 **THE COURT:** Okay.

25 **MS. WAGSTAFF:** I will -- I will -- if I intend to talk

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1 about the hierarchical or logistical, it will be for a
2 different reason than that, than Dr. Ritz's testimony.

3 **THE COURT:** Okay. So just to be clear, Dr. Ritz's
4 testimony about how the hierarchical regression would have come
5 out if glyphosate had been classified a probable carcinogen by
6 the IARC is off limits. Everybody understand that?

7 **MR. STEKLOFF:** I certainly wasn't planning on raising
8 that.

9 **MS. WAGSTAFF:** Yeah. I mean, I think the testimony
10 that it would change based on an IARC classification should be
11 allowed, but I don't think that -- I mean, that's right there
12 in the objective language of the --

13 **THE COURT:** I don't think so. I think -- I mean,
14 maybe -- I think the problem that you have there is that
15 Dr. Ritz offered, like, a junk opinion on that topic, and so
16 basically you don't have any evidence on that topic.

17 **MS. WAGSTAFF:** Well, I have Dr. Mucci, who I asked
18 about it and I showed on the screen. And here's the thing with
19 that study, is that, you know, it's a doubling of the risk
20 fully adjusted study. And so Dr. Mucci is discounting that by
21 saying you look at the hierarchical; right?

22 **THE COURT:** Uh-huh.

23 **MS. WAGSTAFF:** She's saying don't look at the
24 logistical and the hierarchical isn't a doubling.

25 **THE COURT:** Right.

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1 **MS. WAGSTAFF:** And so what she's doing is she's
2 drawing these thresholds and say "Look at this." And when I
3 asked her about it and I said, "Well, this number was based on
4 this weighted thing," and I walked her through it and I said,
5 "It was given a .3 because of the time that this was done in
6 2003 or earlier, whenever they did it, IARC hadn't ruled on
7 it." And she said correct. And I said they've ruled on it
8 now. And she said correct.

9 And when I pushed her, she said she wouldn't know how it
10 would change, but I think I can elicit that at least the
11 circumstances have changed. She admitted that that .3 was a
12 weighting and so, therefore, her discounting of that study was
13 improper --

14 **THE COURT:** Well, I --

15 **MS. WAGSTAFF:** -- or at least highlight it to the
16 jury.

17 **THE COURT:** You know, I mean, maybe it's a question of
18 line drawing because you have no competent testimony that it
19 should have been anything other than .3. I mean, that's the
20 problem. So, you know, I suppose you have evidence that
21 glyphosate -- if the De Roos analysis were done again,
22 glyphosate would not have fit any of the categories in that
23 key; right? That's the only evidence you have, is that
24 glyphosate no longer fits into any of the categories in
25 De Roos' key.

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1 **MS. WAGSTAFF:** So it would be different. I have --

2 **THE COURT:** It might be different.

3 **MS. WAGSTAFF:** Uh-huh.

4 **THE COURT:** I mean, I -- you know --

5 **MR. STEKLOFF:** It might be lower.

6 **THE COURT:** Well --

7 **MS. WAGSTAFF:** I mean, I have --

8 **THE COURT:** -- I don't see how it would be lower.

9 **MS. WAGSTAFF:** Right. I mean, I have other things
10 that were testified about it.

11 **THE COURT:** It might be the same.

12 **MS. WAGSTAFF:** But I will not bring up Ritz when
13 talking about that study.

14 **THE COURT:** Well, I mean, I suppose it would be
15 fair -- I mean, I think you have a point that you could say,
16 "Look, Mucci wasn't even willing -- you know, she's" --

17 **MS. WAGSTAFF:** Yeah.

18 **THE COURT:** -- "focusing on this hierarchical and
19 she's not even willing to acknowledge that it should have
20 changed somehow, somehow, because of -- you know, because of
21 the classification." Maybe that is fair game.

22 **MS. WAGSTAFF:** And that's all I was going to do with
23 it, and then I was going to say some other points related to
24 why I think the hierarchical is better or not related to Ritz
25 or anyone, one of them being that the actual author herself

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1 chose to put the logistical numbers in her '05 paper when
2 describing the '03 paper. I think that's fine.

3 And the second one is that Dr. Weisenburger came here and
4 testified that the logistical numbers were perfectly fine and
5 good to use.

6 So those three sort of things put together is what I would
7 testify about that.

8 **THE COURT:** What would be wrong with saying, you know,
9 she -- you know, that she didn't -- Mucci was unwilling to
10 acknowledge that this might have changed?

11 **MR. STEKLOFF:** I don't -- well, I think that's
12 actually not her testimony. So that might be what's wrong is I
13 think she said, "It would have changed. I can't tell you where
14 it falls."

15 **MS. WAGSTAFF:** That's fine.

16 **THE COURT:** Well, I don't think she said it would have
17 changed. I think she said "I have no idea" because now based
18 on the situation, glyphosate is not in any of these categories.

19 **MR. STEKLOFF:** Well, that's fair. But as Your Honor
20 just said, it could have stayed at .3. None of us know. So I
21 think that her testimony -- I think to portray her testimony as
22 somehow being disingenuous or inaccurate is wrong.

23 **THE COURT:** Fair enough. But what would be wrong with
24 saying: Look, she relied on this hierarchical but the
25 hierarchical was based on -- was conducted at a time when, you

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1 know, this was a .3 because glyphosate had not been classified
2 by either agency and now it's been classified by IARC as a
3 probable carcinogen; and so, you know, the number that she is
4 focusing on is less reliable now than -- you know, what's wrong
5 with that?

6 **MR. STEKLOFF:** Because I don't think that that's
7 factually accurate. I think this is sort of where I've had to
8 draw some lines, say, about BCL-6. I think you would have to
9 say "But the EPA has determined also that it's not carcinogenic
10 and so no one -- as Dr. Mucci said, no one knows where it would
11 be. I think if you completed the story like that, it would not
12 be objectionable. If you only tell half the story, I don't
13 think that that's fine.

14 **THE COURT:** Well, I mean, lawyers only tell half the
15 story in closing --

16 **MS. WAGSTAFF:** He can argue all he wants.

17 **THE COURT:** -- argument all the time.

18 **MS. WAGSTAFF:** I think I can --

19 **THE COURT:** The point is you can't rely on admissible
20 evidence and you can't be misleading about the evidence.

21 **MR. STEKLOFF:** But it's different in this circumstance
22 where had Dr. Ritz not said anything, I agree that she could
23 tell half the story. We are in a different circumstance here
24 because of what Your Honor has identified about Dr. Ritz, and
25 it's that --

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1 **THE COURT:** Well, you could move to strike that
2 testimony.

3 **MS. WAGSTAFF:** And did you even object to it?

4 **MS. MATTHEWS JOHNSON:** Yes, I objected to the
5 question.

6 **MS. WAGSTAFF:** All right.

7 **MR. STEKLOFF:** So I think that the problem of
8 telling -- I agree, lawyers tell half the story. Then it would
9 be my job to get up and tell the other half, but that's
10 different here where it draws attention potentially to
11 something that -- it sort of -- this problem is created because
12 of what you just called junk science.

13 **THE COURT:** Well, I mean, you could move to strike
14 Ritz's testimony now. You could move to strike it in the event
15 that she makes a misstatement -- you know, sort of brings it up
16 in her closing. You know, I don't know. But I think that what
17 she is -- the sort of basic thing that she is proposing, which
18 is, you know, the calculation changes, you know, it --

19 **MR. STEKLOFF:** Potentially.

20 **THE COURT:** -- potentially changes.

21 **MS. WAGSTAFF:** And the reason to know how is even more
22 strong for my argument.

23 **THE COURT:** Well, I'm not sure how that's the case
24 but, in any event, that's for you to argue, I suppose.

25 But I think, you know, there can be no direct or indirect

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1 reference to Ritz's testimony about that; and, you know, it's
2 appropriate to say that, you know, that glyphosate doesn't fit
3 into any of these keys anymore.

4 **MS. WAGSTAFF:** I mean, I would propose --

5 **THE COURT:** You established that in Mucci's cross.
6 That's fine.

7 **MS. WAGSTAFF:** Okay.

8 **THE COURT:** Okay. And what else?

9 **MS. WAGSTAFF:** So just to be clear, though, I can say
10 that when this was done, there was no IARC ruling. Now there's
11 an IARC ruling so it no longer fits in there, and that's what I
12 can say about Mucci's testimony?

13 **THE COURT:** I think that's right.

14 **MS. WAGSTAFF:** Okay. Something that I would propose
15 is in their opening slides they had failure to warn slides
16 about the doctors. I think that if -- one of their slides said
17 that none of the doctors warned or do warn about it, and I
18 think that that's inappropriate for closing. I think that --

19 **THE COURT:** You mean the stuff about just that the
20 doctors never told them --

21 **MS. WAGSTAFF:** Yeah.

22 **THE COURT:** -- never discussed with Hardeman the fact
23 that glyphosate was a risk factor?

24 **MS. WAGSTAFF:** Well, I think their slide actually said
25 something something warned. I can show it to you.

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1 **THE COURT:** I should have brought my slides up. I
2 don't have them with me.

3 **MS. WAGSTAFF:** I think it says specifically -- it was
4 attached to something we filed. Is this it? No, this isn't
5 it. Just one second.

6 (Pause in proceedings.)

7 **MS. WAGSTAFF:** Do you have it in front of you?

8 **MR. STEKLOFF:** It's changed a little, but it's that
9 one.

10 **MS. WAGSTAFF:** No. There was actual the word "warn."

11 **THE COURT:** By the way, we need to talk about the
12 medical records issue; right?

13 **MR. STEKLOFF:** I agree.

14 (Pause in proceedings.)

15 **MS. WAGSTAFF:** Yeah. Do the doctors -- there's
16 this -- there's this? It says "Do the cancer doctors," the
17 first one is "Ask about Roundup," "Test for Roundup," "Warn
18 about Roundup"; and I don't think that that's appropriate to be
19 making argument on whether or not the doctors warn about
20 Roundup.

21 **MR. STEKLOFF:** I'm not making that argument so I don't
22 need to -- we don't -- I don't think it needs -- I will not
23 make that argument.

24 **THE COURT:** Okay. If you're not going to make the
25 argument, therefore, you're not allowed to make the argument.

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1 **MR. STEKLOFF:** That's fine. I'm not making that
2 argument.

3 **THE COURT:** No talk about doctors warning about
4 Roundup.

5 **MR. STEKLOFF:** Okay.

6 **MS. WAGSTAFF:** One question I would ask. Dr. Mucci
7 gave some testimony elicited on direct about the PPEs, and when
8 she was talking about questionnaires and she kind of went a
9 little bit further than the questionnaire and she started
10 talking about how the thought is that when you wear PPEs, you
11 get less exposure, and she kind of went on and so on and so
12 forth.

13 And I've got that pulled if you want it, but I just wanted
14 to know if that was going to be one of the arguments, we would
15 want a curative instruction that he used the product pursuant
16 to the label.

17 **MR. STEKLOFF:** I'm not arguing that.

18 **MS. WAGSTAFF:** Okay.

19 **THE COURT:** Okay.

20 **MR. STEKLOFF:** I had a few if Ms. Wagstaff was
21 finished.

22 **MS. WAGSTAFF:** Yeah. We may ask for a curative
23 instruction on that tomorrow if we go back and reread
24 Dr. Mucci's testimony, but we'll bring that up tomorrow.

25 **THE COURT:** Okay. I'll give you my reaction to that

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1 now is that Dr. Ritz and Dr. Mucci both engaged in speculation
2 about what was going on in people's minds when they were
3 filling out this questionnaire, including Dr. Ritz speculating
4 about personal protective equipment.

5 So, you know, I didn't see anything that sort of crossed
6 the line into raising concerns about whether Hardeman used it
7 as intended, but this topic of using personal protective
8 equipment and how the farmers responded to the questionnaire
9 about that was very much introduced initially by Dr. Ritz in
10 her speculation about what they were thinking and what they
11 were not thinking when they responded to the questionnaire.

12 **MS. WAGSTAFF:** So we'll go back and look at that and
13 raise it again tomorrow if we think we need to.

14 **THE COURT:** Okay.

15 **MR. STEKLOFF:** I should clarify now -- someone said
16 this to me -- on the question of warn, I do think it's relevant
17 that if the oncologists knew that Roundup was a cause, they
18 would tell their patients. I think I can argue that they
19 should stop using Roundup, and I don't want that to be confused
20 with warn.

21 **THE COURT:** Right.

22 **MS. WAGSTAFF:** So, then, I think if he's going to make
23 that argument, I think that we have a party stipulation that
24 we've already stipulated -- we have an RFA that says Monsanto
25 never warned that Roundup could cause cancer. And so if

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1 they're going to say their doctors, if they had known, they
2 would have warned, and, oh, look, they didn't warn, then I
3 think that one of the reasons we could say is because Monsanto
4 never warned them.

5 **THE COURT:** But that begs the question of whether it
6 causes cancer.

7 **MS. WAGSTAFF:** Right. So I'm saying that it all --
8 none of it should come in. I think that it's a complete
9 distraction to what we're doing tomorrow.

10 **THE COURT:** Yeah, I understand. I think it's
11 relevant; and, as I've said, I mean, part of why I allowed the
12 stuff in about the mouse study from 1932 or whenever it was
13 was, you know, that --

14 **MS. WAGSTAFF:** It's 1985.

15 **THE COURT:** I know, sorry.

16 -- it had some relevance, you know, to this issue. But it
17 is permissible for them to argue in closing the testimony about
18 doctors not warning -- not telling their patients to stop using
19 Roundup.

20 **MR. STEKLOFF:** Your Honor, if I can go through my --

21 **THE COURT:** It is not permissible to say that Monsanto
22 didn't warn its people -- warn the public and its customers
23 that Roundup causes cancer.

24 **MR. STEKLOFF:** Your Honor, I just have a brief list.
25 First, I don't think either of us should say anything about

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1 Phase II. I don't think Phase II -- I'm basing this on the
2 opening. I don't think Phase II should come into play. There
3 should be no talk about what might happen based on their
4 verdict.

5 **THE COURT:** Yeah. And I will tell them tomorrow that,
6 you know, they'll be ready to present arguments to you on
7 Phase II when you're done; and then I agree, neither of you
8 should say a word about Phase II either directly or by
9 implication.

10 **MR. STEKLOFF:** Okay. My second, Your Honor, is, this
11 is also based on the opening, there was a slide that had
12 company employees and a big question mark that said "live," and
13 I think any argument that we did not present a company witness
14 is inappropriate. It's shifting the burden, and I don't think
15 that that would be appropriate.

16 **MS. WAGSTAFF:** I mean, I think that's argument and it
17 goes to sort of the strategy of defending this case. And I
18 think we absolutely, in every case I've ever been involved in,
19 have been able to argue that, that they didn't bring anyone to
20 testify live for you. I think that's completely appropriate in
21 closing argument.

22 **THE COURT:** But Donna Farmer doesn't even work there
23 anymore; right?

24 **MS. WAGSTAFF:** She does work there.

25 **THE COURT:** Oh, she does work there.

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1 **MS. WAGSTAFF:** So does Bill Reeves. So does
2 Goldstein. So does almost every person we brought on video.

3 **THE COURT:** Do you-all have case law on this because
4 my sort of gut is there's nothing wrong with what she did in
5 opening on that. You know, that's not one of the things I
6 called her out on.

7 You know, Monsanto could bring these people to testify
8 live and they didn't, and they can't force them to come and
9 take the stand. What's wrong with briefly mentioning that?

10 **MR. STEKLOFF:** Well, I think it's in any circumstance,
11 even in a nonbifurcated trial, burden shifting because we don't
12 have the burden to bring someone. So I think there's case law
13 on that, but we will have to go find it.

14 But in this circumstance in a phased trial where we are
15 talking about causation, I'm not -- I mean, what this person
16 could have said where Your Honor has ruled that they can't --
17 that they're only fact witnesses, they can't present expert
18 testimony, for example, about the extreme dosing and animal
19 studies and other things in Phase -- maybe we revisit this if
20 there's a Phase II; and at the end of Phase II, maybe you say
21 it's appropriate there if we don't bring a company witness.
22 But I'm not even sure -- I mean, I'm not sure how we could have
23 even cabined a company witness' testimony here, and so I think
24 in this trial where we are right now, it's inappropriate and it
25 should not happen tomorrow.

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1 **MS. WAGSTAFF:** And, Your Honor, I think that they
2 absolutely could have brought company witnesses. And as you
3 know from listening to the trial, one of our themes is sort of
4 looking at the whole picture of evidence, and they didn't
5 produce anyone on toxicology and anyone on mechanism, and I
6 intend to point that out to the jury, whether it's by expert or
7 corporate witness. And they could have brought somebody to
8 talk about this information. Donna Farmer could have come and
9 talked about -- and talked about the animal studies. She
10 absolutely could have.

11 **THE COURT:** Well, I don't know. That begs the
12 question whether she was an expert and would have qualified as
13 an expert to do so.

14 But my ruling as of now on the issue of live witnesses is
15 that I think if you briefly mention it in the way that you did
16 in your opening statement, I think that's fine. That's my
17 sense is that I understand that there's a 403 argument, but I
18 think it's fine. If you have case law to the contrary, go
19 ahead and submit it and I'm happy to look at it and, you know,
20 let you know tomorrow morning.

21 **MR. STEKLOFF:** Okay. On Dr. Levine, I think it would
22 be inappropriate to argue anything about her general causation
23 opinions or general causation methodology. I think based on
24 the door opening, I was able to ask a few questions, but I
25 don't think it would be appropriate, for example, to compare,

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1 like, the amount of time Dr. Weisenburger spent talking about
2 general causation with the amount of time Dr. Levine spent on
3 general causation.

4 **THE COURT:** Certainly not.

5 **MR. STEKLOFF:** Okay.

6 **MS. WAGSTAFF:** So just so we're clear on what I intend
7 to do, because I had planned closing before today, I wasn't
8 even considering Levine a general causation witness. So I'm
9 kind of still operating under that assumption because she
10 testified earlier that all of her general causation opinions
11 were coming through Mucci, which I don't think opened the door
12 changed.

13 I think you let him ask those questions about epidemiology
14 just based on some things that Ms. Moore had asked her. I
15 don't think that you were -- your ruling was, "Oh, now, you're
16 a general causation witness," and that's why we didn't follow
17 up with a bunch of cross on epidemiology. And, furthermore,
18 she didn't testify, even when you did open the door, that she
19 reviewed any animal data or mechanistic data. So that's sort
20 of where I am on that.

21 **THE COURT:** Right. But what does that -- I mean --

22 **MS. WAGSTAFF:** So I'm not going to --

23 **THE COURT:** I mean, I was a little vague about what
24 you were intending to say about her on closing.

25 **MS. WAGSTAFF:** So when I talk about -- you know,

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1 obviously there's two sort of sections in closing; right?
2 There's general causation and specific causation. So when I
3 talk about general causation and the testimony that Monsanto
4 brought, I was just going to use Dr. Mucci.

5 **THE COURT:** Right.

6 **MS. WAGSTAFF:** And I wasn't even going to move her
7 into the classification of general causation because it wasn't
8 my understanding that you were then letting her be a general
9 causation witness. My understanding was you were just letting
10 her say "Yeah, I've read the epidemiology" based on some
11 questions Ms. Moore asked her, but you weren't saying, "Yeah,
12 and so now you're a general causation expert." Because, as you
13 know, we hadn't put her epidemiology opinion through the test.

14 **THE COURT:** I mean, I don't have a beef with anything
15 that you just said --

16 **MS. WAGSTAFF:** Okay.

17 **THE COURT:** -- but I also think it would be
18 appropriate -- you tell me, do you have a beef with anything
19 she just said?

20 **MR. STEKLOFF:** No. I think we're going to the same
21 place, which is that I can still argue that Dr. Levine did
22 offer an opinion that Roundup generally does not --

23 **THE COURT:** Well, I mean, offer an opinion? I don't
24 know. I think that you can say that she -- I think you can say
25 what she said.

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1 **MR. STEKLOFF:** Sure. Okay.

2 **THE COURT:** I don't think you can say she offered an
3 opinion because she didn't actually offer an opinion in the way
4 that we understand that term --

5 **MR. STEKLOFF:** Okay.

6 **THE COURT:** -- right?

7 **MR. STEKLOFF:** I can use the phrase "Based on her
8 review of the literature does not think," you know, or
9 something.

10 **THE COURT:** Yeah, she agrees with Dr. Mucci as she
11 testified. She's reviewed the letter and the literature and
12 she agrees with Dr. Mucci.

13 **MR. STEKLOFF:** I think in redirect she was able to go
14 a little bit further, which was to say that independent --

15 **THE COURT:** She has reviewed the literature.

16 **MR. STEKLOFF:** And independently does not think, not
17 just based on Dr. Mucci, she does not think Roundup causes or
18 is associated with non-Hodgkin's lymphoma.

19 **THE COURT:** I mean, I think it is fine to mention the
20 testimony she gave. It was testimony. It was admissible. It
21 was allowed in, but to sort of dress it up as an opinion,
22 right, we have this instruction on experts offering opinions.
23 And I don't think it will -- it would be fair to say that she
24 offered a general causation opinion. She offered a specific
25 causation opinion and in response to questions on

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1 cross-examination or whatever, she offered an opinion on
2 specific causation.

3 **MR. STEKLOFF:** I don't think she did. I think if I
4 can reference the testimony that she offered on redirect -- and
5 I will not characterize it as an opinion -- then I'm fine with
6 that.

7 **THE COURT:** Yeah. Again, it will be the kind of thing
8 where if you go overboard with it, I will need to cut you off.

9 **MR. STEKLOFF:** No problem.

10 **THE COURT:** Okay.

11 **MR. STEKLOFF:** And then the last one --

12 **MS. WAGSTAFF:** Before we leave that topic --

13 **THE COURT:** So --

14 **MS. WAGSTAFF:** -- I intend to do the reverse and argue
15 that she didn't offer a general causation opinion, because --

16 **THE COURT:** Well, I think that would be a real problem
17 because she didn't -- you know --

18 **MS. WAGSTAFF:** Or at least if she did, it is only on
19 the epidemiology.

20 **THE COURT:** Well, I think it would be fine for you to
21 say she reviewed the epidemiology, but she didn't tell you that
22 she reviewed the animal studies and the cell studies. I think
23 that's fine.

24 And for the record, your opponent is nodding yes to that.

25 **MS. WAGSTAFF:** Yeah. And so taking it one step

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1 further, though, if you put together all of her testimony, what
2 Dr. Levine actually said was she is relying on Dr. Mucci's
3 analysis of the epidemiology. She said that at the beginning
4 of the testimony. I think I can tell the jury that.

5 And then later Mr. Stekloff said, Have you reviewed the
6 epidemiology?

7 She said, Yes.

8 He didn't say, Did you do your own analysis and, you know,
9 all of that kind of stuff.

10 So I will go back tonight and reread it, and I will make
11 sure I say everything that sort of fits together; but I think
12 her earlier testimony that she is relying on Dr. Mucci's
13 analysis of the epidemiology is sort of the way that her
14 testimony came in.

15 **THE COURT:** Well, she relies on it. She agrees with
16 it, and she has done her independent review of the
17 epidemiology. I think it is fair game to say she didn't -- she
18 is not basing -- you know, she is not basing her opinion on
19 animal studies or anything like that. That's certainly fair
20 game.

21 **MS. WAGSTAFF:** All right. Well, I thought we just
22 agreed that she wasn't giving a general causation opinion?

23 **THE COURT:** Yes.

24 **MS. WAGSTAFF:** Okay.

25 **THE COURT:** That's correct.

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1 **MS. WAGSTAFF:** Okay.

2 **MR. STEKLOFF:** I think --

3 **THE COURT:** Where am I confused? It sounds like --

4 **MS. WAGSTAFF:** It gets confusing.

5 **MR. STEKLOFF:** I don't think that Ms. Wagstaff should
6 be able to argue that she doesn't -- didn't give a general
7 causation opinion. I similarly don't think I should be able to
8 say she did give a general causation opinion. I think we
9 should both rely on what her testimony was in its totality, and
10 that includes the redirect, which is that she did her own
11 independent review of the epidemiology and based on that
12 review, she does not think that glyphosate or Roundup is
13 caused -- is the cause of non-Hodgkin's lymphoma. That's where
14 we are now based on the cross-examination. And I think
15 anything that characterizes it as something other than that is
16 inaccurate.

17 **MS. WAGSTAFF:** The jury doesn't know what general
18 causation is. So, I mean, I will just argue what her testimony
19 is.

20 **THE COURT:** That makes me a little bit nervous, but --
21 you know, I'm not sure how much we can pre-adjudicate this. I
22 think -- all I'm saying is I think it would be inappropriate to
23 say, Look, she got up there and said that she believes -- she
24 reviewed the literature and she believes it is not a risk
25 factor, but she never gave you any explanation why. That would

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1 be totally inappropriate because -- because she was capable of
2 giving an explanation why. She just didn't because that's how
3 the pretrial rulings went down.

4 **MS. WAGSTAFF:** Okay.

5 **THE COURT:** Does that make sense?

6 **MS. WAGSTAFF:** Yeah.

7 **THE COURT:** Okay.

8 **MR. STEKLOFF:** Doubling of the risk specific to
9 Mr. Hardeman, I think that's off limits in terms of dose
10 response. Again, it is not off limits --

11 **THE COURT:** In terms of dose response, yes.

12 **MR. STEKLOFF:** Yes.

13 **THE COURT:** Yeah.

14 **MS. WAGSTAFF:** Well, hang on. Let me just make sure I
15 understand.

16 In the specific causation when we are saying -- when we
17 are talking about Mr. Hardeman, I'm not to say Because he used
18 it more than two days or ten days, his risk is doubled.

19 **THE COURT:** That's correct.

20 **MS. WAGSTAFF:** Okay. Yeah, I wasn't going to do that.

21 **THE COURT:** The experts were precluded from
22 testifying --

23 **MS. WAGSTAFF:** When I talk about the cases, and I'm
24 describing dose response, I can put up there the 2.1, which is
25 a 210 percent increase risk.

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1 **THE COURT:** I mean --

2 **MS. WAGSTAFF:** Talking about the general causation.

3 **THE COURT:** General causation, yes.

4 **MS. WAGSTAFF:** I'm going to do general causation, and
5 then I am going to do specific causation. So I can actually
6 use those numbers in my general causation?

7 **THE COURT:** Yes.

8 **MS. WAGSTAFF:** Okay.

9 **MR. STEKLOFF:** Then we have two others, and maybe this
10 is sort of just a gray area. But I'm not saying she can't --
11 of course, she can state what the IARC classification was, and
12 maybe a little bit more, but I think, you know, veering into
13 where we were in opening, in terms of the 18 scientists and
14 France and all of that, I don't think that that -- I think
15 consistent with how you ruled in opening, that we shouldn't
16 cross that territory in closing.

17 **THE COURT:** Well, I mean, you know, we have an
18 instruction that you are not supposed to substitute -- you are
19 not to substitute the EPA's judgment for your own or the IARC's
20 judgment for your own. So it seems that it would follow from
21 that, that, you know, you don't cite IARC or EPA in support of
22 your conclusion that it does or does not cause cancer. Right?

23 **MR. STEKLOFF:** Yes.

24 **THE COURT:** So you agree that you should not be citing
25 the EPA or the European regulators in support of your argument

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1 that it does not cause cancer?

2 **MR. STEKLOFF:** I think I can cite the EPA and the
3 European regulators in response, for example, to Dr. Portier's
4 opinions, because that's how it came in. And otherwise I'm
5 fine if neither of us can -- need to -- can -- follow the
6 instruction and not say that they should somehow substitute
7 their judgment for IARC or the regulators.

8 **THE COURT:** I mean, the fact that they have reached
9 their conclusion, that has come in.

10 **MR. STEKLOFF:** Yeah.

11 **THE COURT:** You know, I don't -- I don't -- the
12 question is whether there needs to be, like, a hard-fast gag
13 rule about it or whether, you know, it -- whether it can be
14 mentioned as part of the discussion of the evidence that came
15 in, you know, subject to the limitations that we have already
16 discussed.

17 **MS. WAGSTAFF:** Obviously I have an objection with
18 Monsanto talking about the EPA and foreign regulatory decisions
19 and me not being able to talk about IARC. There is sort of a
20 theme that they are developing with their witnesses that there
21 is no evidence, no evidence across the board, no evidence, no
22 evidence.

23 So I think me being able to at least mention IARC -- I
24 have it in one slide. It is very diluted down. You are going
25 to see it at 7:00 o'clock in the morning. I can take it out if

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1 you don't like it, but I think you will be fine with what I
2 have.

3 **THE COURT:** Okay. But it is not just what is in the
4 slides. It is what you say when you put up the slides.

5 **MS. WAGSTAFF:** Yeah, I understand that. I can
6 practice in front of you tonight.

7 **THE COURT:** Well, I'm comfortable just sort of dealing
8 with IARC and EPA the way we have dealt with it thus far. I
9 mean, in terms of the evidence coming in, it worked out fairly
10 well. The message should be quite clear about -- about closing
11 argument in light of what happened in opening statements.

12 So, you know, I'm comfortable leaving it that way, but if
13 either side wants to sort of delineate further grounds rules,
14 I'm happy to try that too.

15 **MS. WAGSTAFF:** Well, I don't think we presented too
16 much evidence pumping up IARC too much. I wouldn't be
17 surprised if all the jurors don't even know what IARC is.

18 **THE COURT:** Well, they will after they get this
19 instruction.

20 **MR. STEKLOFF:** The last is just -- it's fine. Okay.
21 I won't even press the other one.

22 I have a different question about closing, which is -- I
23 know there are no time limits, but I do think that having some
24 time limit for the rebuttal closing is appropriate because
25 otherwise --

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1 **THE COURT:** Yeah.

2 **MR. STEKLOFF:** Normally there are some time limits
3 over closings overall, and a certain part can be apportioned
4 for rebuttal. So I'm hoping there is some guidance of how much
5 time can be used for that.

6 **THE COURT:** Well, usually what I do is like a quarter
7 of the time you spent on your initial closing, you can spend on
8 your rebuttal.

9 **MR. STEKLOFF:** I would be fine with that.

10 **THE COURT:** Any problem with that?

11 **MS. WAGSTAFF:** No.

12 **THE COURT:** Okay. So if it is an hour in your initial
13 closing argument, it is 15 minutes on rebuttal.

14 **MR. STEKLOFF:** And then the last question I have,
15 Your Honor, is earlier it was referenced to potential rebuttal
16 testimony. I don't think in the time remaining -- 20 minutes
17 or so on Dr. Arber -- is going to change the universe of our
18 evidence very much. So I think we should know now if the
19 Plaintiffs are going to argue that there is some sort of
20 rebuttal evidence so we can address it before tomorrow morning.

21 **THE COURT:** That's fine.

22 **MS. WAGSTAFF:** Well, they have asked me a couple of
23 times about this, and now they are asking in front of you so
24 I guess I should answer.

25 We have some testimony from Dr. Portier on the third

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1 day -- remember he was in Australia. He did direct, cross, and
2 then the third day was all rebuttal. So we have a couple of
3 sections highlighted out. That is not very much. It is
4 probably less than ten minutes. And we were working on that
5 today as Dr. Levine was testifying.

6 And so I would like the opportunity to talk to my
7 cocounsel who has been quite busy all day, and I can get to
8 them the cites that we are talking about later tonight. I just
9 don't have it finalized right now, so I don't -- I mean --

10 **THE COURT:** Okay.

11 **MS. WAGSTAFF:** -- I wasn't prepared to do that.

12 **THE COURT:** By 8:00 p.m. tonight.

13 **MS. WAGSTAFF:** Okay. That much time, wow.

14 **MR. STEKLOFF:** And other than, I think, addressing the
15 medical records, the authentication issue, I don't have
16 anything else, Your Honor.

17 **THE COURT:** Well, then, let's talk about that.

18 **MR. KILARU:** I think there is a relatively
19 straightforward answer to that, Your Honor, which is 902(11) --
20 FRE 902(11), talks about certifying domestic records of a
21 regularly conducted activity.

22 **THE COURT:** 902 what?

23 **MR. KILARU:** 902(11), Your Honor.

24 It says, The original or a copy of the domestic record
25 that meets the requirements of the Business Records Rule

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1 803(6), as shown by a certification by a custodian or another
2 qualified person that complies with the statute or rule.

3 And we have -- I think we submitted --

4 **THE COURT:** What is the a definition of a domestic
5 record?

6 **MR. KILARU:** I believe -- I think it would probably
7 come back up to 803(a)(6) perhaps. I guess it wouldn't go back
8 to 803(a)(6), but --

9 **MS. MOORE:** Your Honor, I'm going to -- I don't think
10 medical records come in under this subsection, but I need to
11 double-check.

12 **THE COURT:** Well, it's not that they come in. It is
13 about authentication.

14 **MR. KILARU:** I think it would count. We can look into
15 this domestic records question. I think this is several
16 arguments we have in favor of letting it come in.

17 We have affidavits from the custodians of medical records
18 at Kaiser, and on both of these affidavits -- I can provide
19 Your Honor a copy if you like -- they have a box checked that
20 says, The person certifying that the records were prepared by
21 the personnel of the hospital staff, physicians or persons
22 acting under the control of, either in the ordinary course of
23 business at or near the time of the act, commission or event.

24 **THE COURT:** Okay.

25 **MR. KILARU:** So I think that should get us over the

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1 authentication hurdle.

2 **THE COURT:** Okay.

3 **MR. KILARU:** Independently, in Rule 901, I believe it
4 is 901(b)(4) -- there is authority for permitting
5 authentication if the appearance, content, substance, internal
6 patterns or other distinctive characteristics of the item,
7 taken together with all the other circumstances, satisfy
8 authenticity.

9 **THE COURT:** Okay.

10 **MR. KILARU:** I think, as Mr. Stekloff pointed out,
11 these records were discussed on the screen with the medical
12 providers, and so I think there shouldn't be that much debate
13 about that.

14 **THE COURT:** Okay.

15 **MR. KILARU:** And there is a case, Tate -- actually it
16 involves Kaiser, of all providers -- but *Tate v Kaiser*. It is
17 at 2014 Westlaw 176, 625. It basically talks about both of
18 these provisions, but sort of puts them together and says even
19 if it technically doesn't meet either one, it is close enough.
20 It is a California case. I believe it is from the Northern
21 District, but I'm not 100 percent sure which district in
22 California. I think given the circumstances, given how many of
23 these medical records have come in --

24 **THE COURT:** Can you give me the cite again.

25 **MR. KILARU:** Sure. 2014 Westlaw, 176, 625, I'm pretty

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1 sure.

2 **THE COURT:** Okay.

3 **MR. KILARU:** We have looked through the notes on 902,
4 and I don't think there is further definition of domestic
5 records other than to sort of contrast them with foreign
6 records, which I think this clearly isn't.

7 **THE COURT:** Okay.

8 **MR. KILARU:** So I think that we believe that that
9 should take care of the authentication issue, and at that point
10 we think they can be admitted to the expert.

11 **THE COURT:** Okay.

12 **MS. MOORE:** Well, Your Honor, there is still the issue
13 of hearsay. Under FRE 703, hearsay is permitted; but that's
14 only to explain that the expert relied upon it. It is not to
15 be admitted for the truth of what is asserted.

16 And so we would ask for an instruction if the Court was
17 going to allow -- first of all, I don't think it is proper
18 under 902 for them to dump these medical records that they
19 weren't able to get in under the doctor's depositions. And
20 they were there at the doctors' depositions. They had an
21 opportunity to cross-examine all the doctors. They have
22 submitted exhibits at the trial for those doctors. These are
23 additional records that they didn't get in with the doctors,
24 and now they are trying to get them in through an expert. And
25 I don't think that's proper. I don't think that is proper

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1 authentication.

2 And so we would ask that if the Court was inclined to
3 allow that to come into evidence, that it not -- that there be
4 an instruction -- I mean, I actually need to see what the
5 exhibits are because I don't recall at this point at 6:30 at
6 night, Your Honor, which ones that we are talking about.

7 **THE COURT:** I think it was actually relatively
8 inconsequential, but not to say --

9 **MS. MOORE:** Yeah, I know. I don't want to spend -- I
10 don't want to waste the Court's time.

11 **THE COURT:** No. I'm not saying you can't object to
12 it.

13 **MS. MOORE:** If we could -- if you can let me look at
14 it tonight and I can let the defense know.

15 **THE COURT:** Well, I mean, the time for looking at the
16 exhibits I think has passed. The question is whether they are
17 admissible under these circumstances, whether they are -- they
18 have been adequately authenticated in the way that Mr. Kilaru
19 has described, and whether -- and whether they can come in
20 through the experts if they have been adequately authenticated.
21 That's really the question.

22 So do you have anything else to say about that?

23 **MS. MOORE:** Yeah, Your Honor. The only other thing is
24 I did object to this when they sent me their exhibit list. And
25 I said that it was improper under hearsay. And I was told, and

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1 I was trying to pull that up -- that they were not going to
2 admit them into evidence, and so I wasn't prepared for that.

3 I want to try to see if I can -- as you can imagine, we
4 have a lot of e-mails back and forth -- but that was my
5 understanding, Your Honor.

6 **MR. KILARU:** I don't believe -- I'm not sure. I don't
7 believe we agreed to that just on the hearsay point. I think
8 if it is authenticated under 902 as a business record, it can
9 come in as a business record. I also think it fits in the
10 medical exception statement, 803(4). I think the
11 authentication objection, it is pretty clear, was not made --

12 **THE COURT:** The medical exception statement, was it --
13 none of those records are reflected as statement by
14 Mr. Hardeman to his treaters, did it?

15 **MR. KILARU:** I don't -- well, I think it goes both
16 ways in those records.

17 **THE COURT:** I don't think so. I think that
18 statement -- that exception for a statement to a medical
19 provider only goes to a statement by the person who is seeking
20 treatment. I don't think it's from the doctors to the patient.

21 **MR. KILARU:** My understanding is different,
22 Your Honor, because I think it is about statements made for
23 medical diagnosis of treatment. And I think the rationale that
24 you have for that rule is that neither side has sort of an
25 incentive to lie in that circumstance. We think it applies

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1 just as well to the doctor's side to the patient's side. I
2 don't think there is anything in the rule that limits it to the
3 declarant being the patient as opposed to the doctor. I also
4 think --

5 **THE COURT:** There is nothing in the text of the rule,
6 but I think there is quite of a bit of case law.

7 **MR. KILARU:** We can look at that as well. I also
8 think the 803(a)(6) point resolves it as well.

9 **THE COURT:** Okay. I will go back and look at that a
10 little bit more, and I will issue a ruling.

11 What were the exhibit numbers? Does anybody remember?

12 **MR. KILARU:** I can get those.

13 (Whereupon, a brief pause was had.)

14 **MS. RUBENSTEIN:** It was Trial Exhibit 1023 at
15 pages 940 and 192.

16 The other -- the other two that were referenced today are
17 actually already in evidence.

18 **THE COURT:** So it was just that one exhibit and those
19 two pages?

20 **MS. RUBENSTEIN:** That's right. We have the medical
21 records.

22 **THE COURT:** Pages 940 and what?

23 **MS. RUBENSTEIN:** 940 and 192, Your Honor.

24 **THE COURT:** Okay.

25 **MS. MOORE:** Do you have a copy?

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1 **MS. RUBENSTEIN:** Yep.

2 **THE COURT:** In light of the fact that it is down to
3 one exhibit, you want to just glance at it and make sure you
4 really care?

5 **MS. MOORE:** I can, Your Honor.

6 **MR. KILARU:** Your Honor, do you want these affidavits
7 or --

8 **THE COURT:** Sure.

9 (Whereupon, a brief pause was had.)

10 **MS. MOORE:** Your Honor, I do want to look at this
11 because it looks like something has been redacted off of this.

12 (A brief pause was had.)

13 **MR. KILARU:** I want to make an unrelated issue that I
14 don't think should take up too much time.

15 But we did make our -- Mr. Stekloff made our directed
16 verdict motion the other day. I think, whether it is today or
17 tomorrow morning, I think it would probably behoove us to put
18 some reasons on the record. I don't want to take too much with
19 that, so we can either do that now or later, whatever you
20 prefer. We can do it tomorrow morning very quickly.

21 **THE COURT:** Before closings?

22 **MR. KILARU:** Yeah. I mean, I think given how much
23 time we spent talking about the jury instructions --

24 **THE COURT:** Okay. We can do that before closings if
25 that's necessary, yeah.

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1 **MS. WAGSTAFF:** And then, Your Honor --

2 **THE COURT:** Sorry.

3 **MS. WAGSTAFF:** I was going to ask just one follow-up
4 question.

5 The case will probably go to the jury after lunch. If
6 they choose to go home at 2:30, there is a chance they won't
7 have a verdict. If they do not have a verdict tomorrow, we
8 would do openings on Friday?

9 **THE COURT:** Not necessarily.

10 **MS. WAGSTAFF:** Okay.

11 **THE COURT:** If they come back with a yes verdict in
12 the morning on Wednesday, I will expect you to be ready with
13 your opening statements.

14 **MS. WAGSTAFF:** And you would only do it if there was
15 enough time for both parties to do opening or --

16 **THE COURT:** Not necessarily.

17 **MS. WAGSTAFF:** Okay.

18 **THE COURT:** And you should -- I mean, I think you
19 should anticipate that they will go past 2:30. The juries
20 almost always seem to do that. Even when I tell them they have
21 the option to do that, they almost always do, so.

22 **MS. MOORE:** Your Honor, on the two pages they just
23 handed me, the one that is marked 1023, page 192, it contains
24 some references that the Court has excluded under a motion in
25 limine, and that has not been redacted. So I would object to

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1 this. This is about eczema, and it's been excluded.

2 In fact, they stipulated to that being excluded at trial,
3 so I'm not sure of the purpose of getting in page 192,
4 especially as it is unredacted.

5 Then on page 940, this is one page and it is cut off of a
6 particular office visit. Oh, I see. This is a different
7 version. Okay.

8 Your Honor, again, I don't think it should come in because
9 it is hearsay and it shouldn't be authenticated with an expert.
10 So that is my objection. I have noted it for the record.

11 **THE COURT:** Okay.

12 **MS. MOORE:** But I do object to 1023, page 192 for --
13 because it is excluded under the MIL order.

14 **THE COURT:** If you think there is something that needs
15 to be redacted, I --

16 **MR. KILARU:** I'm almost certain that this is not the
17 page that we intended. We will figure out which one it is. I
18 think it is one of the ones that was shown to the jury during
19 Mr. Stekloff's direct, so we will figure out what that is.

20 **THE COURT:** All right. I will look at that and either
21 issue something tonight or we will straighten it out tomorrow.
22 So I'm planning on being in very early tomorrow to look at
23 slides. So the slides have to be transmitted to us by
24 7:00 a.m. tomorrow.

25 **MS. MOORE:** Okay. Thank you, Your Honor.

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1 **MR. KILARU:** Thank you.

2 (Proceedings adjourned at 6:38 p.m.)

3 ---oOo---

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5 **CERTIFICATE OF REPORTERS**


6 I certify that the foregoing is a correct transcript
7 from the record of proceedings in the above-entitled matter.

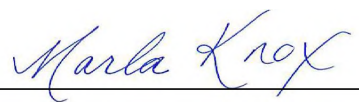
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9 DATE: Monday, March 11, 2019

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13 _____
14 Jo Ann Bryce, CSR No. 3321, RMR, CRR, FCRR
15 U.S. Court Reporter

16 
17 _____
18 Marla F. Knox, RPR, CRR
19 U.S. Court Reporter

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